INSTRUCTIONAL NEEDS AND THEIR USE IN
PRESERVICE TRAINING IN POLYTECHNICS IN ISIOLO,
MERU, EMBU AND MACHAKOS COUNTIES, KENYA

BY

IBUATHU CHARLES NJATI

E83/11763/2008

A Research Thesis Submitted to the School of Education in Fulfillment of the
Requirements for the Award of the Degree of Doctor of Philosophy at Kenyatta University.

February, 2015
DECLARATION

By candidate

I declare that this PhD thesis is my original work and has not been presented in any other university/institution for consideration of any certification. This research thesis has been complemented by referenced sources duly acknowledged. Where text, data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited using current APA system and in accordance with anti-plagiarism regulations.

Signature ______________________________ Date________________

Ibuathu Charles Njati
Registration Number: E83/11763/2008
Department: Educational Foundations

By Supervisors

This PhD research thesis is being submitted for examination with our approval of its content and style as university supervisors.

Signature ______________________________ Date________________

Prof. Daniel N. Sifuna
Department of Educational Foundations,
Kenyatta University

Signature ______________________________ Date________________

Dr. Maurice I. Makatiani
Department of Educational Foundations,
Kenyatta University
DEDICATION

This piece of work is dedicated to my dad M’ibuathu M’eringuri and Mum Murocia Seberina and my wife Doris, daughter Sheila, and sons Nelson and Maxwell for their persistent love, patience and care during my studies. May the Almighty God teach you to love more.
ACKNOWLEDGEMENTS

My sincere acknowledgments go to Almighty God for the gift of life, intellect and strength throughout my study period. My appreciation goes to Prof. Daniel N. Sifuna and Dr. Maurice I. Makatiani who spared every moment in providing technical advice in shaping my thesis, I say thank you so much and may God give you strength to mould more academicians. You forever remain my academic mentors.

I sincerely attribute my success in this study to my family; I am indebted to my wife Doris Karwitha and children Mutethia Nelson, Muthoni Sheila and Munene Maxwell for their love, patience and encouragement during the study period. To my cousin Murira James and family, I salute you for standing by me whenever I visited Kenyatta University for my studies. My special appreciation goes to Munene Moses and Njiru Francis of Meru University of Science and Technology for your support. Further, my sincere thanks go to Wairimu Jane and Njilo Alice for their tireless efforts in ensuring I received thesis comments from my supervisors at the earliest opportunity. May God bless you.

Finally, to all who contributed to the success of this study in one way or the other and not duly mentioned; feel honoured and appreciated.
Table of Content

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declaration</td>
<td>ii</td>
</tr>
<tr>
<td>Dedication</td>
<td>iii</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>iv</td>
</tr>
<tr>
<td>Table of Content</td>
<td>v</td>
</tr>
<tr>
<td>List of tables</td>
<td>xi</td>
</tr>
<tr>
<td>List of figures</td>
<td>xiii</td>
</tr>
<tr>
<td>Abbreviations and acronyms</td>
<td>xiv</td>
</tr>
<tr>
<td>Abstract</td>
<td>xv</td>
</tr>
<tr>
<td>CHAPTER ONE</td>
<td>1</td>
</tr>
<tr>
<td>INTRODUCTION AND BACKGROUND TO THE STUDY</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Background to the Study</td>
<td>1</td>
</tr>
<tr>
<td>1.3 Statement of the Problem</td>
<td>21</td>
</tr>
<tr>
<td>1.4 Purpose of the Study</td>
<td>22</td>
</tr>
<tr>
<td>1.5 Objectives of the Study</td>
<td>22</td>
</tr>
<tr>
<td>1.6 Research Questions</td>
<td>23</td>
</tr>
<tr>
<td>1.7 Assumptions of the Study</td>
<td>23</td>
</tr>
<tr>
<td>1.8 Limitations of the Study</td>
<td>24</td>
</tr>
<tr>
<td>1.9 Delimitations of the Study</td>
<td>24</td>
</tr>
<tr>
<td>1.10 Significance of the Study</td>
<td>26</td>
</tr>
<tr>
<td>1.11 The Theoretical Framework</td>
<td>26</td>
</tr>
<tr>
<td>1.12 The Conceptual Framework</td>
<td>29</td>
</tr>
<tr>
<td>1.13 Definition of Operational Terms</td>
<td>32</td>
</tr>
<tr>
<td>1.14 Organization of Thesis</td>
<td>33</td>
</tr>
<tr>
<td>CHAPTER TWO</td>
<td>35</td>
</tr>
<tr>
<td>REVIEW OF RELATED LITERATURE</td>
<td>35</td>
</tr>
<tr>
<td>2.1 Introduction</td>
<td>35</td>
</tr>
<tr>
<td>2.2 Vocational Education and Training of Instructors</td>
<td>35</td>
</tr>
<tr>
<td>2.3 Instructors’ Remunerations</td>
<td>43</td>
</tr>
</tbody>
</table>
3.6 Piloting Study ........................................................................................................................................ 104
3.6.1 Validity of research instruments ......................................................................................................... 105
3.6.2 Reliability of study instruments ............................................................................................................. 106
3.7 Data Collection Procedures .................................................................................................................... 107
3.8 Data Processing and Analysis .................................................................................................................. 109
3.8.1 Logistical and ethical issues ................................................................................................................ 110
CHAPTER FOUR ......................................................................................................................................... 112
PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSION ............................................. 112
4.1 Introduction .............................................................................................................................................. 112
4.2 Respondents who participated in the Study ............................................................................................... 113
4.3 Youth Polytechnic Trainees’ Parental Socio-Economic Background .................................................... 117
4.4 Trainees’ Views about their Parents’ Socio-Economic Background ....................................................... 118
4.5 Choices of Trades by Trainees ................................................................................................................ 119
4.6 Trainees Perceptions about Overall Status of their Youth Polytechnics .............................................. 128
4.7 Youth Polytechnic Trainees’ Recruitment and Academic Qualifications ............................................ 129
4.8 Trainees Views on Why YPs Enrollments Remained Low .................................................................... 130
4.9 Views of Trainees, Instructors and Parents on the Purpose and Functions of YPs ................................ 133
4.9.1 Trainees views about purpose and functions of YPs ......................................................................... 133
4.9.2 Instructors’ views about purpose and functions of YPs ................................................................... 135
4.9.3 Parents’ and BOM Views about purpose and functions of YPs ......................................................... 136
4.10 Instructional Methodologies Employed at YPs .................................................................................... 138
4.10.1 Training guidelines ............................................................................................................................... 139
4.10.2 Trainees’ views about implementation of trade guidelines .............................................................. 142
4.10.3 Opinions of DYT, SCYTOs and YP managers on implementation of trade guidelines .................... 145
4.11 Trade Lessons ....................................................................................................................................... 146
4.11.1 Theory lessons ................................................................................................................................... 146
4.11.2 Practical lessons .................................................................................................................................. 149
4.11.3 Masonry practicals ............................................................................................................................... 153
4.11.4 Tailoring practicals ............................................................................................................................. 154
4.11.5 Carpentry/joinery practicals ................................................................................................................ 155
4.12 Youth Polytechnics’ Workshops and other Physical Facilities ........................................ 157
4.12.1 Training tools and equipment ......................................................................................... 162
4.12.2 Masonry trade trainees/tools ratios .............................................................................. 163
4.12.3 Tailoring trade trainees/tools ratios .............................................................................. 164
4.12.4 Carpentry/joinery trade trainees/tools ratios ................................................................. 165
4.12.5 Instructors views on instructional implementation and information communication technology (ICT) ................................................................. 168
4.12.6 Trainees perceptions about teaching instructions and ICT ........................................ 170
4.12.7 Trainees performance in NITA examinations ............................................................... 171
4.12.8 Challenges facing instructors during instructional delivery ........................................ 173
4.13 Trainees’ Career Prospects in their Trades of Specialisation ............................................. 174
4.13.1 YP Instructors, managers, SCYTOs and DYT opinions on future prospects of trainees ...................................................................................................................... 177
4.14 Strategies for Improving Instructional Delivery at Youth Polytechnics ............................. 178
4.14.1 Trainees’ views on improving training at YPs ............................................................... 179
4.14.2 Views of instructors, YP managers, SCYTOs, DYT, BOM and parents on alleviating shortages of instructors at YPs ........................................................................... 180
4.14.3 Instructors views on improving YPs training ................................................................. 181
4.14.4 YP managers, SCYTOs and DYT views on improving vocational training at YPs ........................ ................................................................. 182
4.14.5 Employment and remuneration of instructors ............................................................. 183
4.14.5.1 Academic and professional background of instructors ............................................. 183
4.14.5.2 Instructors’ remunerations and other incentives ...................................................... 187
4.14.6 Trainees’ workplace experiences .................................................................................. 192
4.14.7 Instructors’ views about their workplace experiences ................................................... 195
4.14.8 The YPs’ income generating units ................................................................................ 196
CHAPTER FIVE ..................................................................................................................... 201
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS ..................................................... 201
5.1 Introduction ..................................................................................................................... 201
5.2 Summary ....................................................................................................................... 202
5.3 Conclusions ................................................................................................................... 208
5.4 Recommendations .................................................................................................................. 213
5.4.1 Policy recommendations .................................................................................................. 213
5.4.2 Recommendations for further research ............................................................................. 215
REFERENCES ............................................................................................................................. 217
ANNEX I RESEARCH INSTRUMENTS ....................................................................................... 233
Annex I:-A Youth Polytechnic Instructor’s Interview Schedules .............................................. 233
Annex I:-B Youth Polytechnic Manager’s Interview Schedules ................................................. 235
Annex I:-C Sub County Youth Training Officer’s Interview Schedule ....................................... 238
Annex I:-D Director Youth Training Interview Guide ............................................................... 240
Annex I:-E Youth Polytechnic Second Year Trainee’s Questionnaire ....................................... 242
Annex I:-F Checklist for Tools, Training Manuals, Equipment, Workshops and Classrooms .............................................................................................................. 244
Annex I:-G YP Board of Management and Parents Focus Group Discussions ...................... 246
Annex I:-H Schedule for Document Analysis and Statistical Data ........................................... 247
ANNEX II STUDY WORK PLAN ............................................................................................... 248
ANNEX III BUDGET ..................................................................................................................... 249
ANNEX IV VISUALS -TABLES, FIGURES, CHARTS ................................................................. 250
Annex IV:-A List of Government Registered Youth Polytechnics in MIEMCK ....................... 250
Annex IV:-B Parents and BOM Informant for Focus Group Discussions ................................. 252
Annex IV:-C Second Year 2013 Carpentry/Joinery Trainees at Kyemutheke YP
without Jointing a Desk Clamping ......................................................................................... 253
Annex IV:-D Stools with Fine Finish made by Sampled Second Year 2013 Carpentry/Joinery Trainees at Don Bosco Youth Polytechnic ......................................................... 254
Annex IV:-E Check Listed Clothing Items made by Second Year 2013 Tailoring Trainees at Gitugu YP ........................................................................................................... 255
Annex IV:-F Check Listed Dressed Building Blocks made by Second Year 2013 Masonry Trainees at Nkubu YP ......................................................................................... 256
Annex IV:-G NITA Artisan Training Guidelines for Masonry, Carpentry/joinery and Tailoring .......................................................................................................................... 257
Annex IV:-H KIE Artisan Training Guidelines for Masonry, Carpentry/joinery and Tailoring .......................................................................................................................... 260
Annex IV:-I Topics in NITA GTT III Syllabus but Missing in KIE Artisan Syllabus .............. 265
Annex IV:-J Check Listed Clothing Items at Nkubu Youth Polytechnic made by
Second year 2013 Tailoring Trainees…………………………………………………………266
Annex IV:-K  Pointing Moldings made on Stone Wall by Vyulya YP
Masonry Second Year 2013 Trainees……………………………………………267
Annex IV:-L  Check Listed Coffee Tables made at St. Joseph’s YP by
Carpentry/joinery 2013 Trainees…………………………………………………268
Annex IV:-M  List of Masonry Tools/Equipment (NITA 2013)…………………………269
Annex IV:-N  List of Tools and Equipment for Tailoring (NITA 2011)………………..270
Annex IV:-P  List of Tools and Equipment for Carpentry/Joinery (NITA 2013)………271
RESEARCH AUTHORIZATION……………………………………………………………273
RESEARCH PERMIT………………………………………………………………………275
List of tables

Table 3.1: Population of YPs in MIEMCK per County in 2012................................. 89
Table 3.2: Instructors, parents and BOM members sampled for the study ............... 91
Table 3.3: Sampled YP Institutions for the Entire Study........................................ 93
Table 4.1: Instructors, Parents and BOM Members who Participated in the Study........ 114
Table 4.2: Sampled YPs’ Frequency Table Showing Total Number of Trainees per
Trade who completed the Questionnaires............................................................ 115
Table 4.3: Trainee Respondents Frequency Distribution by Gender per Trade........... 115
Table 4.4: Second Year Trainees Responses about their Parents’
Socio-Economic Occupations............................................................................. 118
Table 4.5: Data on Academic Qualifications of Sampled Second
Year Trainees (2013 Class).................................................................................. 129
Table 4.6: Trainee Informants’ Views on why YP Recruitment of
Trainees Remained Low....................................................................................... 131
Table 4.7: Trainees Views about Purpose and Functions of YPs............................... 134
Table 4.8 Instructors Views about Purpose and Functions of YPs........................... 135
Table 4.9: Parents and BOMs’ Views about Functions of YPs................................ 137
Table 4.10: Trainees Opinions on Methods used in Giving Theory Instructions.......... 147
Table 4.11: Trainees Responses on Difficulties Experienced During
Masonry Practices............................................................................................... 153
Table 4.12: Trainees Responses on Difficulties Experienced in Tailoring
Practicals............................................................................................................. 155
Table 4.13: Trainees Views on Difficulties Experienced in
Carpentry/Joinery Practicals.............................................................................. 156
Table 4.14: Observed Conditions of Training Workshops in Sampled YPs.............. 159
Table 4.15: Conditions of Existing Physical Facilities at Sampled
Youth Polytechnics

Table 4.16: Sampled Trainees/Masonry Tools and Equipment Ratios

Table 4.17: Sampled Trainees/Tailoring Tools and Equipment Ratios

Table 4.18: Sampled Trainees/Carpentry Tools and Equipment Ratios

Table 4.19: Trainees Performance in the Sampled Trade’s 2012 NITA Examinations

Table 4.20: Trainees Views on their Future Prospects after Completing Training

Table 4.21: YP Instructors, Managers, SCYTOs and DYT Opinions on Future Prospects of Trainees

Table 4.22: Instructors, YP Managers, SCYTOs, DYT, BOM and Parents Views on Alleviating Shortage of Instructors at Youth Polytechnics

Table 4.23: YP Managers, SCYTOs and DYT Responses on ways of Improving Vocational Training

Table 4.24: Sampled Instructors’ Background on Academic and Professional Qualifications

Table 4.25: Instructors/Trainees Ratios and their Employers per Sampled Trade

Table 4.26: Second years Trainees/Instructor Ratio in three Sampled Trades in 11 YPs

Table 4.27: Sampled Instructors’ Responses about their Monthly Salaries
List of figures

Figure 1.1: Skills and Training Acquisition Model.......................................................... 28

Figure 3.1: Map of Kenya Showing Geographical Locations of the
Sampled 12 YPs in MIEMCK.................................................................87

Figure 4.1: Trainees’ Responses why they Trained in Masonry.................................121
Figure 4.2: Trainees’ Responses why they Trained in Tailoring...............................123
Figure 4.3: Trainees’ Responses why they Trained in Carpentry/joinery..................125
Figure 4.4: Trainees Perceptions about Overall Status of their Youth Polytechnics.....128
Figure 4.5: Trainees Perceptions on Implementation of Training Guidelines.............143
Figure 4.6: Trainees’ Views on Implementation of Trade Practical Instructions...........149
Figure 4.7: Instructors Views about Instructional Implementation and ICT at YPs..........169
Figure 4.8: Perceptions of Trainees about Instructional Implementation and ICT ....170
Figure 4.9: Challenges Faced by Instructors while Teaching Sampled Trades............173
Figure 4.10: Trainees views why YPs were not preparing them for future prospect......175
Figure 4.11: Key informants views on future prospects of YP trainees.....................178
Figure 4.12: Trainees suggestions on ways of improving training...........................179
Figure 4.13: Instructors’ views on ways of improving vocational training at YPs.........181
Figure 4.14: Length of time in years sampled instructors had served in
their respective YPs ........................................................................188
Figure 4.15: Sampled instructors views on incentives they received at YPs..............189
Figure 4.16: Sampled trainees views about workplace experiences......................194
Figure 4.17: Instructors’ and managers’ views about their workplace.....................195
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOM</td>
<td>Board of Management</td>
</tr>
<tr>
<td>CDF</td>
<td>Constituency Development Fund</td>
</tr>
<tr>
<td>CPE</td>
<td>Certificate of Primary Education</td>
</tr>
<tr>
<td>DIT</td>
<td>Directorate of Industrial Training</td>
</tr>
<tr>
<td>GTT</td>
<td>Government Trade Test</td>
</tr>
<tr>
<td>H Dip</td>
<td>Higher National Diploma</td>
</tr>
<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
</tr>
<tr>
<td>IGU</td>
<td>Income Generating Units</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organisation</td>
</tr>
<tr>
<td>KCE</td>
<td>Kenya Certificate of Education</td>
</tr>
<tr>
<td>KCPE</td>
<td>Kenya Certificate of Primary Education</td>
</tr>
<tr>
<td>KCSE</td>
<td>Kenya Certificate of Secondary Education</td>
</tr>
<tr>
<td>MIEMCK</td>
<td>Meru, Isiolo, Embu and Machakos Counties in Kenya</td>
</tr>
<tr>
<td>MOEST</td>
<td>Ministry of Education Science and Technology</td>
</tr>
<tr>
<td>MoYAS</td>
<td>Ministry of Youth Affairs and Sports</td>
</tr>
<tr>
<td>NCCK</td>
<td>National Council of Churches of Kenya</td>
</tr>
<tr>
<td>NSSF</td>
<td>National Social Security Fund</td>
</tr>
<tr>
<td>NVCET</td>
<td>National Vocational Certificate in Education and Training</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OECS</td>
<td>Organisation of Economic Caribbean States</td>
</tr>
<tr>
<td>PSC</td>
<td>Public Service Commission</td>
</tr>
<tr>
<td>DYT</td>
<td>Director Youth Training</td>
</tr>
<tr>
<td>SCYTO</td>
<td>Sub-County Youth Training Officer</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Packages for Social Sciences</td>
</tr>
<tr>
<td>TVET</td>
<td>Technical, Vocational and Entrepreneurship Training</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Education Scientific and Cultural Organisations</td>
</tr>
<tr>
<td>UNO</td>
<td>United Nations Organisations</td>
</tr>
<tr>
<td>VET</td>
<td>Vocational Education and Training</td>
</tr>
<tr>
<td>YP</td>
<td>Youth Polytechnic/s</td>
</tr>
</tbody>
</table>
ABSTRACT

The desire to expand education to all as an investment for economic and human resource development has been reinforced by several studies in the field of educational economics. In least developing countries, large numbers of graduates graduating from formal school system are unemployed despite existence of employment opportunities within the economy. This situation has brought into sharp focus the mismatch between training and labour market skill demands. Therefore, the purpose of this study was to gather information about relationships between training resources used by trainees and instructors at YPs as per training policy and the expected acquisition of knowledge and skills by trainees for gainful work or self-employment. The objectives of the study were to: explore ways of curriculum implementation and assess instructors’ and trainees’ perceptions about instructional methodologies used at YPs by instructors in giving instructions. Instructors’ and trainees’ perceptions about training tools, equipment and materials they used were sought besides strategies that would help improve instructional delivery mechanisms. Finally, trainees’ career prospects were investigated and whether parents and trainees valued vocational training. The study adopted functionalist theory on education and division of labour by Emile Durkheim which states that education teaches individuals specific skills necessary for their future occupations. The study adopted survey design taking an explanatory approach. The study population was 2911 respondents. Census and purposive sampling techniques were used to draw a sample of 33.56% (977) informants. These were YP second year trainees and instructors in the trades of masonry, tailoring and carpentry/joinery; parents, BOM members, YP managers, SCYTO and director for youth training. The study employed questionnaires, interview schedules, focus group discussions, document analysis and checklists to collect data. Through piloting and using split half method questionnaires statistical analysis yielded reliability value of r equal to 0.80. Data were analysed using SPSS computer software programme that yielded percentages, pie charts, frequencies, bar graphs and ratios. A major study finding was that none of the sampled YPs offered agriculture as a trade but was offered as common a course to first years only. Community’s negative attitude towards vocational training (consumers of vocational services) discouraged youths from enrolling at YPs. The study found that 72.8% respondents said there were poor trainees’ enrolments at YPs. The study established that 100% instructor informants were not aware of ISCO-08 vocational training standard guidelines developed by ILO. Besides, 79.9% trainees reported while instructors employed demonstration methods during theory lessons, trainees explained those skills. During practicals some trainees shared tools because they were not enough. Majority (93.1%) sampled instructors were ICT illiterate. The YPs could not afford most automated tools/equipment and workshops were poorly equipped and were shared among trades. The study concluded that YPs were in dire need of instructors, adequate training tools/equipment, consumable materials and workshops. Secondly, lack of clear policy guidelines on implementation of vocational training is long overdue. The study recommended that County Governments put up comprehensive policies on financing and staffing of YPs as well as erecting model YPs in every location within the county.
CHAPTER ONE
INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction
This chapter presents background to the problem, statement of the problem, purpose of the study and specific objectives. Assumptions, research questions, significance of the study, theoretical, conceptual framework together with definitions of operational terms and organisation of thesis are included.

1.2 Background to the Study
The most far-reaching revolution in the 21st century is mostly in the field of technology (Shantayanan, 2002). Technology has revolutionalized the world in many ways such as communication, education, health and many others; hence no society can afford to ignore the dynamic impact of change (Shantayanan, 2002:39). The changes so far made demand a corresponding advancement in the area of Technical, Industrial, Vocational and Entrepreneurship Training (TVET); if technological advancement can be highly sustained for economic development presently and in future.

As a result of poor technological growth since the end of the Second World War in 1945, educational development in Africa and other less developed countries has faced critical challenges. In third world countries like Latin America, Africa and South Asian countries, education systems have been blamed for causing unemployment and for contributing towards inadequate manpower needs by offering academic based education (Coombs, 1985). Among the strongest desires aroused soon after 2nd World War of 1945 was access to education. This was geared towards seeking equalization to opportunities in education. This was an idea born by United Nations Organisation (UNO) Declaration of Human Rights of 1948 in Paris France which stated that “Everyone has a right to education”. This declaration implied the strongest
claims of all people in all nations (Coombs, 1985). This triggered a greater awareness in the entire globe by way of organising conferences to review and point to resolutions and initiatives in making education available to all. Makatiani (2008:1-2), refers to UNESCO conferences at Karachi (1958), Santiago (1960), Addis Ababa (1961) and Jomtien (March, 1990) world conference on Education for All (EFA) in Thailand. The resolutions arrived at in these conferences called upon individual countries to use framework reached to develop their own specific plans of action and programmes in line with particular objectives and constitutions in order to bring to reality the declaration of EFA (Little, et al 1994:78).

Therefore desire to expand education to all as an investment for economic and human resource development has been reinforced by several studies in the field of educational economics, (Vizey, 1962 & Schultz, 1960, 1963). These studies tend to give a scientific assertion that national economic growth flows from technological progress through education. Moreover, most researchers in the field of educational economics regard education as a builder of a specifically cherished form of wealth in the name of human capital. Like all other useful capital, education can be used to produce goods and services. Thus the emphasis on education investment where the economic gains are measured by means of cost benefit analysis such as applied wage structures in regard to one’s job skills (Coombs, 1985:175-176; & Omar, 1983:12-14).

The paper on Poverty Eradication Strategy (RoK, 2004B) and Economic Recovery Strategy for Wealth and Employment Creation (RoK, 2004) are among conference reports that have put emphasis on the importance of vocational education as an investment for economic and human resource development. The UNESCO conference of 2004 held in Bonn Germany reinforced the need to invest in VET (Makatiani, 2008). The conference asserted that “since
education is considered the key to effective development strategies, technical and vocational education and training (TVET) must be the master key that can alleviate poverty, promote peace, conserve the environment, improve the quality of life for all and help achieve some sustainable development” (African Union 2007: 16).

Chi-Yuen Wu (2005:57) observes that the Chinese government believes that modernisation of education by applying information technology referred to as ‘informationization’ is essential in order to transform the heavy population burden into valuable human resource. This echoes the fact that education is the key driver of economic growth, competitiveness and human welfare. Poor education, “raw”, reduces the value of human capital by impeding growth. This in turn slows down the adoption of new technologies. Most importantly, the accumulated technical organisational innovations of human kind can, through training in principle, enable poor countries catch up fairly fast with economic giants of the world (Chi-Yuen Wu, 2005).

Improving the quality of training across the range of providers is a government priority. Therefore, public training policies and interventions can be justified on either efficiency or on equity grounds. In this regard, Gleeson & Keep, (2004) point out that in the United Kingdom (UK), over the past two decades, there has been a shift in the general perceptions among policymakers of the purpose of education and training, from education for education’s sake, towards education’s contribution to underpinning global competitiveness and economic success, and more recently to its part in social inclusion. The structure of funding, planning and control of vocational education and training in the UK has considerable employer influence. For instance, Local Learning and Skills Councils (LSC) are expected to engage with employers and employer representatives, such as local Chambers of Commerce.
Gleeson & Keep (2004) continue to observe that employers have also been given 40 per cent of the seats on the boards of LSCs, making employers the largest interest group with the highest representation. LSCs are also tasked with trying to match the output of the education system, with an aim to be an ‘information-clearing organisation’, where changes in employer demand for skills are identified and communicated to the supply side (colleges and training providers), who then arrange provision to meet these demand.

Latin-American countries face serious difficulties to maintain their adolescents from disadvantaged background in secondary schools and technical training institutions. Many strategies are being employed to retain them in regular schools and also to bring them alternative opportunities that would give them vocational training which would improve their employment opportunities. Frequently these initiatives are linked with vocational training and/or social programmes to facilitate or improve the transition to the world of work. A comparative review of programmes that give youngsters an opportunity to reintegrate to secondary education in more flexible alternatives involving public-private partnerships, often linked with vocational training programmes and other strategies to facilitate the transition to work has been enforced in many Latin American countries such as Brazil, Argentina and Peru (Jacinto, 2002a).

Thus, the quality of an education system is defined by both the nature of the learning environment or the process and learners outcome (World Bank 1995, Ross and Mahlck 1990, Schmelles et al 1996). The quality of learning environment in an institution, on the other hand, is determined by the availability of relevant resources such as text books and other instructional materials; government policies governing that particular level of education and
the efficiency with which available resources are deployed and utilised within the school system (World Bank, 1995).

Such issues precipitated African governments to come up with policies to guide technical and vocational education. While the aims of vocational training are not different from those of technical and vocational Education and training (TVET) the only difference is the entry behaviour and level of attainment of trainees in terms of qualifications acquired in the respective institutions since all aim at producing trainees with versatile employable skills either for self or gainful employment. However, the former aims at producing artisans certificate holders and operate on the periphery of mainstream TVET.

One of the most important features of TVET is its orientation towards the world of work and the emphasis of the curriculum on the acquisition of employable skills. In most countries in Africa, large numbers of graduates coming out of the formal school system are unemployed, although opportunities for skilled workers do exist in the economy. For example, urban youth unemployment rates in 2012 in Sierra Leone were highest at 60% followed by Mauritius 59.9%, Swaziland 50%, Republic of Congo 42% and Rwanda 42% (Araya (2012:3).

This situation has brought into sharp focus the mismatch between training and labour market skill demands. Critics argue that the lack of inputs from prospective employers into curriculum design and training delivery are partly responsible for the mismatch. Another reason that is often cited for the incidence of high unemployment among graduates is the absence of entrepreneurial training in the school curriculum.

On attaining independence, the Kenya government, like other African countries, placed considerable importance in education in promoting economic and social development. This
was occasioned by the fact that during the colonial era, the whites and Indians had access to academic education while Africans were offered technical type of education (RoK 1964). In this regard the Ominde Commission of 1964, RoK (1964) recommended valid educational policy objectives that abolished racial discrimination within the education sector. This was the first step towards democratization of education in that both technical and formal education was open and accessible to all. Thus, Africans rushed to throw off the “shackles” of vocational education to receive the academic and higher education and training from which they had been systematically denied previously (RoK 1964). So far, the image of vocational and technical education has not yet recovered from such tainted image.

Several researches have been carried out to assess the effectiveness of technical education programmes throughout the world and Kenya in particular. King (1977) carried out a historical study on the subject and observed that all the main primary schools in Kenya until mid 1930’s were strongly vocational in that pupils were offered an entire curriculum focused on goals relevant to their vocations. This policy was occasioned by the determination of European settlers to replace expensive Indian artisans with cheap skilled African labour. A number of studies carried out in the seventies showed that a majority of Kenya’s African artisans had been produced silently without a formal policy and without formalized institutions. During the colonial period as well as in the post independence period, the production of skilled African manpower had been consistently emphasised. The attempt to create artisans in formal institutional context often seemed to have turned out very differently from what was planned (King, 1977:191).

Since independence in 1963, there has been a swing towards and away from vocational education (Muthee, 2010). Sifuna (1983) in a paper presented at a staff seminar at Kenyatta
University College observed that vocational education gained importance after independence even though the Africans had not favoured it. This was mainly because of problems caused by the school leavers’ unemployment. The unemployment problem among school leavers led to the establishment of post-primary vocational institutions, like Youth Polytechnics, Vocational and Craft Centres as a response to community demand for vocational education at the post-primary level where the school leavers’ problem was a matter of concern in the middle of nineteen sixties (Mukabwa, 1996). The National Council of Churches of Kenya (NCCK) drew the attention to the need for community initiatives in 1966 in a booklet entitled “After School What?” and proceeded the year with the founding of 4 Village Polytechnics. The idea was to provide rural primary school leavers with 2 years informal skills training for which there was demand in the local community (Lamont, 1970:5).

The conflict of interest between the wish of educators in Africa to supply vocational education while students and their parents demanded an academic one has been a continuing theme in discussions of educational policy in Africa since the classic works of Foster (1965a, b). King and Martin (2002) describe VET fallacy as a challenge between reality and planning. First and foremost, Foster’s main message was that youth in Africa had already quite rationally decided in the sixties; despite all types of attempts to change that attitude that an academic education would be better for achieving their goals and improving their position than vocational schooling. He argued that while policy can have many noble goals of improving the situation of socially and economically disadvantaged people, the actual attitudes and behaviour of young people did not match these goals. Foster’s conclusions were based on a study of perceptions of young Ghanaian males on their future prospects and education opportunities. Although several methodological points are made and the mitigating
effects of schools on society are recognised, King and Martin's survey concludes that Foster's message today as in 1965 remain relevant for any attempts to use schools to deliver massive changes in attitude and aspiration in the absence of any parallel initiatives in the larger economic environment (King & Martin, 2002: 24).

Secondly, Foster argues that vocational education was given considerable emphasis during the colonial period due to racial overtones and related factors, but was rejected by Africans in preference for an academic kind of curriculum in order to secure white color jobs. However, on attaining independence African leaders found it quite convenient to fall back to it when faced with the serious challenge of school leaver unemployment. Even after around 50 years of independence, they still cherish it as demonstrated in TVET African Union education document (A.U. 2007). The appeal for vocational education in the face of school leaver unemployment as a form of policy intervention is also characteristic of developed countries as well. More importantly, there is a false assumption that training by itself creates jobs.

Thirdly, researchers have found that VET tends to succeed in countries where economic growth is in tandem with educational expansion. A good example is in such countries as Singapore, Hong Kong and Southern Korea as well as many Latin American countries. In other countries, where educational growth/development lags behind economic development, VET tends to fair very poorly as is true of most African countries (DFID, 2007:2).

On the other hand, Oketch (2007) criticises the fallacy in that it does not have to apply today, as vocational education is seen as training for future training; not as a way to facilitate job entry, but as a way to facilitate vocational-specific skills over a lifetime. He argues that VET in Africa needs to be reformed to train for what he calls higher skills, linking better with the
informal sector. It is however clear that Foster’s VET fallacy’ continues to influence policy-makers today, making them skeptical about the need for VET. In this regard, an influential World Bank (1995) publication “Skills for Productivity from 1993” attempts to summarise the role of VET in economic development as to develop options for public policies and suggest strategies for policy reform. Thus, vocational school fallacy is taken as a point of departure from preparing trainees for the job market to training trainees for future training. The position of the World Bank is interesting, as it has funded many projects in VET in the past years from 1963 – 1976; more than half of World Bank-assisted investments in the educational systems of developing countries supported vocational education and training. Two-thirds of this investment was made in middle-income countries. Similar patterns persisted well into the 1980s, not only for the World Bank, but also for the investment programmes of the Asian, African, and Inter-American Development Banks, (Middleton, et al. 1993). The dilemma that gives rise to the study is that developing nations are faced with a dual problem while developing strategies for increasing the access to middle-level skills and improving productivity under severe resource constraints and responding to competing demands for public education and training resources, improving access to, and quality of, basic education among others (Middleton, et al. 1993).

Therefore, the results of VET should be seen in the context of other investments as well. Understanding the economic context in which training is delivered is therefore critical to the development of effective training policies and programmes, (Middleton, et al. 1993). Thus three critical dimensions of focusing on improving productivity, availability of jobs, and producing workers with the needed skills of acceptable quality are found to make VET cost-effective.
Kenya as a country has been through a cycle of education policy making which began in the 1960s with an attempt to shift the educational system towards and away from a more vocational focus to a more academic supply of education as discussed in Ominde, Gachathi, Mackay and Koech commissions of 1964, 1976, 1982 and 1999 (RoK, 1964; RoK, 1976; RoK, 1982; & RoK, 1999) respectively. These commission reports ended up with many key educational policies unachieved due to financial constraints. Initially vocational education was seen as a panacea towards alleviating unemployment and minimising the rural urban migration of the youth in search for jobs. This shift in education policy has witnessed a general swing towards and away from vocational schooling to more general academic education which is favoured by parents and learners in most third world countries since independence.

African countries have had several conferences to examine the relationship between education, employment and culture in the society. The Lagos conference of 1976 discussed the issues of interaction between education and production work. The conference concluded that “it is by producing things that pupils learn how to be a producer in a community” (Fine, 1987:15). These processes had powerful backing from those investing in education like World Bank, UNESCO and other multinational bodies.

Earlier, the World Bank (1974) in ‘Education Sector Working Paper’ stressed that education systems were irrelevant to the needs of developing countries during the last two decades because education policies were keeping company with overall development strategies which were irrelevant. This policy paper discussed issues relating to development of functional relevant skills integrated with overall rural development strategies. It emphasised mass participation in education and development through integration of expanded primary
schooling and non formal educational programmes that would offer opportunities to youths who could not join secondary education. While this policy framework was seen as key to steer development in third world countries, it turned out not to be. In the early 90’s, the World Bank (1974) cited negligence that it attributed to a complex set of reasons which included budgetary constraints and criticisms on its direction and focus. The World Bank had cited at that time, high training costs, poor quality of training, the mismatch between training and labour market needs and the high rate of unemployment among TVET graduates as a justification to recommend a policy shift away from school-based technical and vocational education and training (World Bank, 1991).

After two decades, the Education Sector Review of the World Bank (1995) argued that the rate of return was much higher to investments in general than in vocational secondary education. This new view of academic education and not vocational training that should underlie educational policy has not gone unchallenged. However, the increasing importance that African governments now attach to TVET is reflected in the various Poverty Reduction Strategy Papers that governments have developed in collaboration with The World Bank.

In an effort to improving vocational education and training, several countries in Africa have developed new policies in consonance with the demands of their economy. In her part, Cameroon has developed poverty reduction strategy document for vocational and professional training to facilitate integration into the labour market; Cote d’Ivoire focuses on strengthening vocational training; Ghana links vocational education and training with education of the youth and the development of technical and entrepreneurial skills; Lesotho and Rwanda focus on linking TVET to businesses while Malawi emphasises the need to promote self-employment through skills development (African Union, 2007:17). On her part,
the Kenya government has developed a legal framework for TVET to provide for the establishment of a TVET Authority to oversee the TVET systems GOK (2008) as cited by Nyerere (2009:10). This is intended to strengthen the mechanisms for the implementation of the necessary TVET reforms aimed at enhancing the capacity of the sub-sector.

In its Plan of Action for the Second Decade of Education (2006 – 2015), the African Union African Union, (2007) recognises the importance of TVET as a means of empowering individuals to take control of their lives and recommends the integration of vocational training into the general education system as well as integration of non-formal learning methodologies and literacy programmes into national TVET programmes so as to respond to the different training needs of learners from different socio-economic and academic backgrounds, and prepare them for gainful employment and sustainable livelihoods (African Union, 2007:5). Due to these policy transformations taking place in Africa as spearheaded by multinationals like World Bank, African countries are synchronising their policy on TVET implementation in their own countries to meet the AU goals which aim to:

i) revitalise, modernise and harmonise TVET in Africa in order to transform it into a mainstream activity for African youth development, youth employment and human capacity building in Africa;

ii) position TVET programmes and TVET institutions in Africa as vehicles for regional cooperation and integration as well as socio-economic development as it relates to improvements in infrastructure, technological progress, energy, trade, tourism, agriculture and good governance; and
iii) mobilise all stakeholders in a concerted effort to create synergies and share responsibilities for the renewal and harmonization of TVET policies, programmes and strategies in Africa” (African Union, 2007:5-6).

On the other hand, MPET 1997-2010 (1998:114) outlines the main objectives of TVET in Kenya at the lower levels of training like YPs as to:

i. Develop the scientific, technological, practical and attitudinal skills needed for specific jobs in various trades, vocations and professions;

ii. Inculcate the vocational and entrepreneurial skills necessary for self-employment.

iii. Integrate relevant general education into training curricula; and

iv. Reduce disparities through increased training opportunities for females, the handicapped and learners from poor household.

In articulating these objectives, YPs like other training institutions, face various challenges in their effort in realising their instructional obligations which is producing trainees who are versatile and marketable in the modern technological world. Such challenges include physical development needs, instructing needs that include: innovative curriculum, trainees’ entry behaviour, instructor qualifications, adequate training materials, and feasible attachment cum assessment routines (MPET 1997-2010, 1998). Administrative, planning and research needs complete the pack of requirements for adequate training. However, this study is to explore the instructional needs of vocational education and training among YPs which has a bearing in realising the dream of producing competent and versatile trainees.

A look at selected countries by Nyerere (2009:6); (Ethiopia, Ghana, Kenya, Rwanda, South Africa, Tanzania, Uganda, India, China and Vietnam) that examines ‘what room there is for
skills development in post-primary education’ asserts that across the countries covered, TVET occurs in many different environments, both formal and informal, in institutions (schools or vocational centres and colleges), on-the job (informal apprenticeships in Ghana) or both (for example, learnerships in South Africa). Of the ten countries examined, Rwanda has the highest enrolment in TVET at the secondary level (35%), followed by Tanzania (13%) and South Africa (5.8%). The study notes that Sub-Saharan Africa (6.1%) and South and West Asia (1.2%) have little room for TVET at the post-primary school level (Nyerere, 2009). Given the above, it is a matter of concern that Africa lags behind the rest of the world in technology and still it continues to pay little attention to technical education and technological research. In Kenya for example, there have been deliberate efforts to structure and deliver formal TVET education through establishment of TVET institutions either by the government or the private sector. However, Non-formal TVET sector, just like the informal sector, has been neglected by the government particularly in relation to the organisation of systems and structures. The Government has policies for the sector but they are not implemented, enabling the private sector to exploit it for cheap labour. The sector has been generally left to civil societies and religious organisations, among others, to intervene, which is done at programme levels hence few target groups reached.

Training and employment issues are closely related in that training as an instrument of employment could be irrelevant if it were not explicitly oriented towards the world of work. In this regard, there are certain factors that affect adequate training and acquisition of knowledge and skills by trainees that are unique to their training environments, while other constraints are common to all. Training is expected in the first place to ease the transition from school to work and thereby minimize imbalances between skills needed in the economy...
and skills available. At the macro-level, training policies are well formulated, coherent and covering all levels of skills needed in the economy. However, there is a gap between what seems to be good policy intentions and their implementation which impedes the achievement of quality, efficiency and effectiveness of training programmes.

In this regard vocational training in YPs has been of great concern to trainees, wider society, scholars and government because the objectives these institutions are meant to achieve have not been realised to a big extent. Most of the youths leaving class eight after Kenya Certificate of Primary Education (K.C.P.E) who miss form one places are meant to join YPs to learn vocational skills in order to earn a living. Despite lack of places in secondary schools, few youths join YPs and majority stay away. This is because good training programmes that are market oriented have proved competitive and attractive to trainees elsewhere since they are rewarding to both trainees and the society after completion of training.

Numerous criticisms of technical and vocational education have continued to be voiced in regard to how this type of education is impacting on skills acquisition by trainees (Atchoarena et al. 2002:38 and Gloria & Efajemue 2011:46). These may be summarised as follows: - poor quality, high cost, training not suited to actual socio-economic conditions, disregard of the informal sectors’ needs, disregard of the labour market needs and of the high unemployment rates among graduates. A closer look at these studies reveals that high cost of TVET is due to smaller class size and need for expensive equipment, facilities and teaching/learning materials. Without such equipment training yields poor results and graduates are unable to find jobs.
One of the major challenges facing vocational education and training in third world countries and Kenya in particular is inadequate financing (Atchoarena, 2002). In the years following independence, TVET in Africa was mostly financed by governments, multilaterals and bilateral aid agencies, which regarded TVET as a potential factor for modernising Africa. The technical education share of World Bank has dramatically decreased, falling to 6% in the 1993-1998 periods (Atchoarena, 2002). This indicates a shift of financing patterns in TVET education in Africa where governments, parents and communities cost share in meeting the training requirements of this sector. Thus, considerable costs have been passed on to the consumer students and their sponsors.

While past empirical studies have tended to use learner’s level of achievement as an indicator of quality, it is now accepted that a precise definition of school quality should be found on specific impact that the learning institution has on a learner’s learning experiences. The school impact is determined by the concentration of materials input expended by the school per learner and the efficiency with which the inputs are used in the institution to improve pupils teaching (Fuller, 1986). In case where parents and host communities are responsible for providing inputs, socio-economic circumstances influence the level and quality of resources they are able to provide to institutions of learning to sustain sound practices. Since the introduction of mainstream formal education to the populaces in 1960’s, the quality of VET in institutions, particularly YPs has remained low in developing the trainees’ skills and knowledge to the expectations of the job market (Gloria & Efajemue 2011). Since then, concern with low quality of VET from the general public, government and researches conducted has been on the increase. This concern has been triggered by several factors namely: first, the low levels of VET achievement have been due to the reduction of central
government resource allocation to the TVET sector. For example in Kenya (MOEST, 2005:87-89), the entire TVET sector was allocated 1% of the total budgetary allocation of the parent ministry in 2004 government financial year.

Secondly, research evidence persistently indicates that access to good quality education is central to national development. This is because TVET is a productive sector in economic sense and it affects a wide range of development goals, therefore the limited economic capacity, and progress of many developing countries to improve and develop the quality of TVET may significantly constrain the contributions of education investment to development. Thirdly, inadequate central government financial support in developing countries has relegated a greater responsibility of financing schooling to parents and host communities. This circumstance, however, has not taken into account economic disparities between households and communities. The concern with this policy has been that communities from medium and low socio-economic regions may not be able to afford all the inputs required to give a learner quality education and training. Moreover, the low quality of education in Africa is attributed to inadequate policies related to their financing (Lockhead & Verspoor 1991).

Vocational education requires enormous finances to procure relevant training materials, tools and equipment, carry out research, pay instructors and ensure successful assessment of trainees during industrial attachment. Most of the funds allocated to YPs by government and tuition fees collected from trainees barely cover the salaries of instructors. Besides, equipment in most training institutions are in dire need of repair or replacement, yet funds are not available nor is there awareness among trainers of the need for routine maintenance of equipment. Training materials, for example, text books in most institutions are outdated and
in some cases are not there (Owigar, 2003:85). Apart from YPs under donor support, training inputs are very low and poor. This leads to a conclusion that inadequate budgets lead to inadequate outcome and a training system cannot be efficient and cost effective if any of its budget components fall below the threshold amount required to make it operational.

According to MPET 1997–2010 (1998:118), the government outlined its legal and management infrastructure in order to secure all public YPs by making them public institutions under the ambit of the state as part of the public education and training. This legal provision makes all YPs eligible for grants from public funds besides benefiting from Constituency Development Fund (CDF) kitty and grants from the Ministry of Youth Affairs and Sports (MoYAS).

Duplication of trades, often unrelated to potential in the local economy goes against the spirit of good curriculum dispensation among YPs. Traditionally, YPs have been offering tailoring and dress making, carpentry and joinery, masonry, electrical installation, leather work, and agriculture among others. However, recent global trends in vocational education and training have attempted to introduce innovations in curriculum teaching and programmes that address problems brought about by technological changes and global competition among nations. Such changes require high capitation to pick up in developing countries such as in Africa.

Loubser (1983: 61) argues that the YP training programmes are to be determined on the basis of a survey of which skills are locally needed and should be kept flexible to respond to changing community needs as times and technology change. Hence, trainees would acquire a range of elementary skills that would enable one to be versatile in the services of a community.
Paramount to instructional needs of YPs is instructing staff with adequate trade and pedagogical training experience. The role of the teacher is essential to all aspects of economic development as the end implementer of the educational curriculum. The Federal Government of Nigeria (2004) recognised the crucial roles of the technical and vocational institutions as a source of supply of essential skilled manpower for the industries and for self employment as well as of technical and vocational teachers. This is the right way in the present world to confront the overwhelming forces of change such as globalisation, rapid technological growth and the labour market demands. Such changes have serious implications to education in terms of policy changes, provision and delivery processes. However the amount of changes to be made would require diligent planning, effective piloting processes, adequate preparations and appropriate implementation procedures, giving serious considerations to resource implications. For instance, the infrastructure should be adequate enough and the staffing level appropriate to accommodate the new changes. Thus, furnishing skills required to improve productivity, raise income levels and improve access to employment opportunities has been widely recognised. Developments in the last three decades have made the role of TVET more decisive; the globalisation process, technological change, and increased competition due to trade liberalization necessitates requirements of higher skills and productivity among workers in both modern sector firms and Micro and Small Enterprises (MSE) (Bennell 1999 & Nyerere 2009).

However, various researches show that majority of the instructors do not possess these requirements. This can be attributed to two facts, first lack of funds to enable YPs hire qualified staff and secondly failure by sponsor communities and government to support them fully in upgrading their vocational skills. YP instructors have to be acquainted with
appropriate local technology and instructional delivery mechanisms in the workshops. Quality training can only be delivered by competent instructors with sufficient technical and practical knowhow. Such caliber of instructor/s exhibits confidence in technical and pedagogical skills commensurate with appropriate technology of the day that befit different work places; which are rare at the training level. As regards appointment of instructing staff Nyerere (2009) documents that the Ministry of Research and Technology of the Government of Kenya in 1990’s anticipated to develop a programme to in-service instructors in middle level colleges such as technical training institutes in trade and pedagogical skills, a dream that has remained elusive so far. This has deteriorated the state of instructions in YPs because of high rate of staff turnover.

Feedback information about labour market outcome is an important step towards orienting the training system to output rather than input. According to Manda & Odhiambo (2003:49), Kenya’s unemployment and informal sector employment are considered to be important links between poverty and labour markets. In Kenya, the developmental impact of training is compromised by lack of relevance to the skills which are needed in the labour market and the poor quality of existing training programmes. The objectives and outputs of the training system are not oriented to economic and social requirements. The participation of industries in curriculum development is still rare and therefore the training institutions are not informed of the labour market expectations.

The provision of labour market information to trainees not only influences occupational choices but also directs them to employment opportunities. However, availability of appropriate information on labour market in the country among YPs and vocational training institutions is scarce, especially in MIEMCK.
1.3 Statement of the Problem

With the discussions in the background of the problem in mind, it was found necessary that an explorative study on VET training policy implementation at YPs that supply trained workers into the job market and for further training be carried out. This would show whether there existed gaps, similarities or differences in functional relationships between the implementation of VET policy practices in instructional delivery at YPs. Besides some YP’s operated under rich and conducive environments for instructional policy implementation while others did not have such enabling resources but operated with minimal constraints.

Therefore, the problem of this study was to explore training implementation at YPs as per government VET training policy carried by instructors through instructional equipment, workshops, tools and materials such as singers, planes, hammers, saws, plumb lines, training manuals and consumable materials among others in the trades of tailoring, masonry and carpentry/joinery in preparation for National Vocational Certificate in Education and Training (NVCET) certificate. This was against a background of fast changing technology in TVET and how YP institutions are coping with it. These are used by YP instructors and trainees in meeting instructional requirements for adequate vocational skills and knowledge acquisition by trainees.

To this end, the instructional needs as portrayed by quality of instructions offered in YP institutions per government VET training policy, and trainees technical skills acquisition level of competency as expected by the general society which they serve after completing training were investigated, so as to bring out good practices, similarities and differences in VET policy implementation practices, especially in both private and government sponsored YPs in MIEMCK.
1.4 Purpose of the Study
The study aimed at gathering information that illuminates relationships, patterns and links between available VET resources at YPs and their usage by both trainees and instructors as per the government VET training policy on one hand; and the expected acquisition of knowledge and skills applicable by trainees later in the world of work for gainful or self-employment. This is perceived to have a bearing on vocational skills training as a means to enhance quality and efficiency of instructional delivery among YPs as expected by the community in which they serve. Secondly, the study purpose was to identify indicators of good practices that are likely to be replicated in future, and as a result, highlighted issues for future in-depth study.

1.5 Objectives of the Study
The following were the objectives of the study:

1. To find out whether trainees, instructors as well as the community have faith in the purpose and functions of the YPs.
2. To explore in what ways curriculum implementation is carried out among youth polytechnics.
3. To find out instructors’ and trainees’ perceptions about instructional methodologies used by youth polytechnic instructors in giving instructions.
4. To examine instructors’ and trainees’ perceptions about training tools, equipment and materials at their disposal as the necessary implements towards acquisition of vocational skills and knowledge.
5. To establish trainees career prospects within their trades of specialisation after completion of a two year certificate training period.
Suggest appropriate strategies that would help improve instructional delivery mechanisms in youth polytechnics.

1.6 Research Questions

This research was guided by the following questions.

1. Do trainees, instructors as well as the community have faith in the purpose and functions of the YPs?

2. In what ways is curriculum implementation carried out among youth polytechnics?

3. What are the perceptions of instructors and trainees about instructional methodologies used by youth polytechnic instructors in giving instructions?

4. What are perceptions of youth polytechnic instructors and trainees about training equipment, tools and materials at their disposal as the necessary implements towards acquisition of vocational skills and knowledge?

5. What are the trainees’ career prospects in their respective trades of specialisation after completion of the two year certificate training period?

6. What appropriate strategies would be employed to improve instructional delivery mechanisms in youth polytechnics?

1.7 Assumptions of the Study

The major assumptions of this study were; first, that instructing staff and trainees of YPs follows a standard curriculum and covers all the topics in the syllabus for the NVCET programmes in a period of two years as recommended by the Ministry of Youth Affairs and Sports. Secondly, the study assumed that YP instructors instructing NVCET programmes validate the performance of their trainees using modes of assessment that are recommended by the parent ministry. Thirdly, both the education and professional qualification of
instructors instructing NVCET programmes are in accordance with government policy on qualifications of staff preparing trainees in YPs and those instructors are well remunerated according to their levels of qualification and experience, and that they face minimal levels of constraints during instructional delivery. Finally, the study assumed that YPs have requisite training equipment, facilities and materials for both instructors and trainees that facilitate appropriate instructions for trainees to acquire adequate vocational skills and knowledge; and that trainees are attached and assessed accordingly within the two year period of training.

1.8 Limitations of the Study

This study was carried out in 12 youth polytechnics in MIEMCK. For the purposes of fulfilling study objectives, the research directed its attention to both privately sponsored and government supported YPs that had done the National Vocational Certificate of Education and Training (NVCET) level of two year training period. The researcher faced some limitations in accessing some sampled YPs in remote areas due to poor roads and poor means of transport. Consequently, the researcher overcame this difficulty by employing motor cycle means of transport to access sampled YPs at remote places where there were limited means of public transportation.

1.9 Delimitations of the Study

The study focus was based on five aspects namely: the type of facilities used during instructional delivery; instructional delivery methodologies employed by instructors within and outside the workshops; method used in evaluating trainees’ course of training; coverage of the content in the certificate programme as outlined in the curriculum; and finally the trainees prospects after completion of certificate programme training. The findings of the
study were not generalised to all YPs in Meru, Isiolo, Embu and Machakos counties and the whole country because of the uniqueness of the physical environment under which each YP operated and the diversity of the people, culture, and values among others. However, they would be of some use to all YPs in MIEMCK.

The study was carried out in YPs that confined themselves into one form of training for VET pre-service programme. Besides these were government supported and privately sponsored institutions. The assumption is that these institutions are guided by common regulations governing VET policies such as training syllabi and sitting same examinations administered by NVCET. However, some YPs have their own unique allocations of resources and staffing from local communities and non-governmental organisations besides operating in different environments.

Newly established YPs (those in existent for less than six years) were not included in the study because they were perceived not to have acquired adequate facilities for training; neither had they established their own traditions and values as the older institutions. The researcher worked with all YP managers and instructors instructing trainees in second year of study because they were assumed to have gained substantial experience about YP instructional operations. In addition, only second year YP trainees were involved in this study because they were assumed to have covered much of the respective trade’s curriculum, hence in a position to give summative opinions about their programmes. However, for the purposes of obtaining more relevant data on matters of training and curriculum implementation the researcher worked with both the regional Director of youth training in MIEMCK and the four sub county youth training officers who oversee VET policy implementation within their administrative areas.
1.10  **Significance of the Study**

This study was conceptualised against a background of instructional requirements amongst YPs in MIEMCK whose status was scarcely known and the concern that YPs be instrumental in alleviating deteriorating levels of vocational skills and knowledge by championing sound VET practices. The findings of this study are likely to be of significance in several ways. This being a question of addressing policy implementation about instructional needs amongst YPs in MIEMCK, the findings will hopefully sensitise educationists, curriculum planners and policy makers on vocational education and training. Equally, the findings of the study may give directions to the review and strengthening of training curricula of the targeted trades of tailoring, masonry and carpentry/joinery among YPs in MIEMCK.

Finally, the study findings could be instrumental in guiding future research on needs and contents of vocational skills and knowledge acquisition as this is not a fully exploited area in vocational education and training and that this research will contribute to addressing the instructional needs of both YP trainees cum instructors.

1.11  **The Theoretical Framework**

This study adopted functionalist theory on education and division of labour advanced by Emile Durkheim in 1892. In his theory, Durkheim argued that *education teaches individuals specific skills necessary for their future occupations* (Holborn & Haralambos, 2004:692). Durkheim asserts that, every society sets itself a certain ‘human ideal’, an ideal of what a person should be from the intellectual, physical and moral points of view; this ideal is the crux of education. This is because society can subsist ‘only if there is sufficient homogeneity among its members’. Education perpetuates and reinforces this homogeneity by inculcating in
the child’s mind the fundamental relationships required by life in the community. Through education, the ‘individual being’ is turned into a ‘social being’. This homogeneity is, however, only relative in societies characterised by a division of labour, the greater the differentiation and solidarity between various types of occupation, the more a certain degree of heterogeneity is necessary (International Bureau of Education, 2001:2).

On the basis of this theory, the researcher describes how trends of change within the social sector worldwide have created problems of inconsistencies in the manner in which VET trainees are imparted with specific skills and knowledge for survival in the job market. The one problem identified in the background of this study was poor training materials leading to poor quality training. In order to hasten the investigation into addressing the problem of quality training using relevant training materials, curricula and instructing staff, the researcher looked at functionalist approaches as advanced by Emile Durkheim. In his analysis, Durkheim argues that education trains people to perform and fit within certain jobs (Holborn & Haralambos, 2004). He identifies the aspects that need to be inculcated in the child’s mind that conform to the society’s norms. Such aspects include functional skills such as those to perform and run a simple business like a carpentry workshop. Hence this theory articulates the very ideals that must be put in place in order to see full acquisition of particular VET skills. These specific aspects include how well adequate training materials, functional workshops, classrooms and conducive learning environment are used by VET policy implementers in the classroom; who are the qualified instructors.

For this reason schools transmit both general values such as being awareness of one’s environment which provide necessary homogeneity for social survival and specific skills which provide the necessary diversity for social cooperation in specialised division of labour.
where specialists combine to produce goods and services. This theory was adapted to guide this study because of the aspect that a school teaches an individual a specific skill that assists in placing the trainee rightly within the occupational spectrum in a society.

Besides, this theory was complemented by social learning theory advanced by Albert Bandura in 1961. His theory of self efficacy argues that the benefits of performing behaviour outweigh the costs of negative outcomes. It addresses individual level interventions by placing behaviour change in a broader contextual domain to cater for environmental factors (Bandura, 1986). Thus, this theory complements Durkheim’s theory in that it addresses environmental factors within YPs that influence learning behaviour change. Such factors include the time a trainees is in school learning as opposed to being sent away to collect fees, enough room for carrying out practice, among others. Secondly, it builds on self-efficacy of learners in achieving behaviour change. Thus, learners are perceived to internalize what they learn in class, and when examined practically or theoretically are in a position to give correct responses. Hence, through feedback mechanisms and reciprocity, a person’s own reality is formed by the interactions of the environment and his/her cognition; besides learner’s internal events which influence their perceptions and actions in their vocational trades.

Moreover, for any skills and knowledge to be imparted adequately into a trainee, functional prerequisites such as appropriate trade tools and training materials, sound instructional methodologies of disseminating the curriculum instructions, trained instructors and learning environment that is conducive, among others, must be put in place. By examining the perceptions of respondents, the study arrived at some tangible findings in VET that could broaden horizons of imparting vocational skills and knowledge; and raise the expectations of
trainees against the challenges and constraints prevailing amongst YPs in MIEMCK. This was further conceptualised in the conceptual framework.

1.12 The Conceptual Framework

The ultimate criterion for judging a teaching institution or an entire establishment engaged in imparting training is the improvement in education of the millions of learners by imparting accurate knowledge and specific skills that generate goods and services that meet the expectations of a society. However, this is challenged by various factors such as inadequately trained instructors leading to poor methods of instruction, poorly organised curriculum, inadequacy of training materials and facilities as well as poor learning environment among others.

Kombo and Tromp (2006:50) observe that a conceptual framework should help a researcher to shape his/her thinking and complete an investigation successfully. The conceptual framework in Figure 1.1 (p. 30) was modified from Passi and Sansanwal (2008:2). It is a teaching and training skills model capturing the needs of this study as requirements for vocational skills training by NVCET and MoYAS in the trades of carpentry/joinery, masonry and tailoring. The diagrammatic model conceptualises four independent variables.

First are trainees needs in the process of training that when fulfilled leads partially to acquisition of VET skills and knowledge. These include adequate training materials, tools and equipment; workplace attachment, syllabus coverage and undertaking examinations. Secondly, instructors’ needs are pedagogical skills and trade content qualifications, adequate remuneration, upgrading of instructional methodologies and right training tools and equipment in trades of tailoring, masonry and carpentry/joinery.
Trainee’s needs
- Adequate training materials, tools and equipment.
- Supervised workplace attachment.
- Appropriate instructions on syllabus coverage.
- Assessment examinations.
- Leavers upgrading skills and knowledge to acquire sound practices relevant to market needs.

Instructing environment
- Adequately equipped workshops.
- Instructions given in both theory and practice.
- Trainees are assessed as per syllabus requirements.
- Adequate training material.
- Engaging in projects.
- Field and industrial trips.
- Adequate motivation.
- Accessibility to current VET trends and information.

Instructor’s needs
- Appropriate trade and pedagogical/qualifications.
- Facilitation to assess trainees on attachment.
- Attend to workshops.
- Right tools for practical/theory lessons.
- Adequate remuneration.
- Upgrading instructional methodologies.
- Exposure to workplaces.
- Addressing challenges and constraints facing Vocational Education and Training.

Evaluation of trainees
- Practical tests and end term evaluation carried out.
- End of the two year course Government Trade Test (NVCET) exams conducted.

Expected training outcome
- Versatile trainee equipped with cognitive, psychomotor, and affective vocational attributes.
- Sound VET practices meeting expectations of society.

**Figure 1.1: Skills and training acquisition model**

**Source:** Modified from Passi and Sansanwal (2008:2).
The arrows point to the interaction of these two variables in the instructing environment as the third independent variable. The instructing environment determines the skills training outcome as instructors needs and trainees needs come into play. This is facilitated by adequately equipped workshops and classrooms, assessing trainees as per VET policy requirements, giving instructions in both theory and practice as outlined in trade’s syllabus among other variables.

Fourthly is the evaluation of trainees after two years of training. This entails administering both practice and theory internal examinations within a term. At the end of 2 year training period, trainees sit NVCET external end of course examination in which trainees are awarded a certificate of proficiency in a trade.

Finally for education to serve as a source of knowledge and skills, instructors of YPs need to be more equipped with both pedagogical and trade’s knowledge and skills so as to instruct VET as expected by communities they serve and produce versatile trainees. The model provides training outcome as the dependent variable where trainees are perceived to acquire cognitively relevant training skills and knowledge such as defining a depth of a drawer in a cupboard; applying a tool such as a plumb line correctly and affectively interacting with others in a business environment. However, the model provides feedback mechanisms for both instructors and trainees to improve their work skills by addressing prevailing VET challenges and constraints. This is because YPs are not only meant to train school leavers only but also out of school adults wishing to learn specific VET skills.
### 1.13 Definition of Operational Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional needs</td>
<td>Particular requirements for both instructors and trainees of a youth polytechnic necessary for adequate training leading to acquisition of appropriate vocational skills and knowledge by trainees. These include training materials, appropriate instructing methodologies, adequate training rooms and adequate curriculum implementation processes.</td>
</tr>
<tr>
<td>Quality training</td>
<td>This is a type of training where trainees acquire relevant vocational education, training skills and knowledge in a specific trade to enable them perform exceptionally well both theoretically and practically at the examination level and at a job market. Such skills are perceived to place a trainee at a position to be versatile in a competitive job market.</td>
</tr>
<tr>
<td>Vocational training</td>
<td>Type of non formal education offered at youth polytechnics dealing with basic training geared towards acquainting a trainee with relevant vocational skills and knowledge so as to earn a decent living through self-employment. The trainee is instructed in a trade in which skills and knowledge are examined at the end of two years of training.</td>
</tr>
</tbody>
</table>
1.14 Organisation of Thesis

The thesis is organised into Five Chapters as follows. In chapter one, background to the study looks at world overview of vocational training by bringing out salient features that are dominant in different countries. This is narrowed down to spell the statement of the problem and purpose of the study. The research objectives, questions, scope and limitations of the study and research assumptions are explained in separate sections. Further, significance of the study, theoretical and conceptual frameworks guiding this study are explained. Finally, this chapter defines operational terms and explains organisation of the thesis.

Review of related literature is covered in Chapter two. The chapter is divided into six sections, thus: vocational education and training of instructors, instructors’ remunerations, vocational education and training curricula, trainees’ requirements for vocational education and training, financing vocational education and training, and vocational training tools and equipment. Finally the chapter winds up with a conclusion that identifies specific knowledge gaps that were filled.

Chapter three critically discusses research design, study location and target population involved in this study. Various sampling procedures that were used to obtain required sample sizes of youth polytechnics, YP trainees and instructors and other respondents are explained. Further, the chapter explains research tools which included interview schedules, questionnaires, and observation schedules and focus group discussions. Piloting to ascertain validity and liability of research instruments is explained. The chapter looks at data collection procedures, data processing and analysis techniques, logistical and ethical issues. Finally, a conclusion is drawn about the entire chapter.
Presentation of findings, interpretation and discussion are documented in Chapter four. The chapter presents perceptions and analysis of respondents’ responses in terms of study objectives. This is addressed in the context of vocational training in relation to YPs’, training curricula, facilities and training materials, instructing staff; and possible strategies that may be used to improve instructional delivery among studied YPs. The analysis is done in terms of discussions of findings presented into percentages, Figures, Tables, pie charts and bar charts.

The study winds up in Chapter five with summary of the study, conclusions and recommendations. The chapter draws a comprehensive summary of the study as guided by study objectives. It draws conclusions based on findings of each objective. From the research findings, the researcher outlines recommendations that are perceived to show the way in vocational education and training in instructional delivery among studied YPs in terms of policy implications. Finally the chapter highlights areas recommended for further research.
CHAPTER TWO
REVIEW OF RELATED LITERATURE

2.1 Introduction

The review of related literature in this study was concerned with synthesis of what knowledge surrounds the study problem by establishing what gaps, similarities and differences existed in relationship among studied YPs instructing needs. The synthesis provided relevant details of information about instructional policy implementation at YPs by pointing out the strengths, weaknesses and knowledge gaps that needed to be filled. The study employed survey design using explanatory approach to detailing aspects of vocational training at selected YPs learning environment which improves or hinders adequate acquisition of vocational skills and knowledge by trainees. It focused on specific aspects of instructional needs indicators such as: financial needs, conditions of learning environment that included training equipment, information communication technology (ICT), workshops and consumable materials, training output, personnel requirements and training curricula. The literature review was guided by the following thematic areas:

2.2 Vocational Education and Training of Instructors

In October 2004, at the UNESCO International Experts Meeting Learning for Work, Citizenship and Responsibility held in Bonn, Germany, it was declared that “Skills development leading to age-appropriate TVET should be integral to education at all levels, and can no longer be regarded as optional or marginal; the kind of individual who possesses the knowledge, skills and attitudes necessary for active participation in life and underscored the role of education in enriching human experience” (Gloria and Efajemue, 2011:45). These scholars assert that the role of an instructor is essential to all aspects of economic development as the end implementer of educational curriculum. According to Gloria and
Efajemue, (2011:47-48) in a survey entitled “Problems of Vocational Instructor Education in Rivers State of Nigeria” found out that TVET is currently an important educational necessity to propel technological aptitudes and inventions. The study argues that a well thought out programme without proper implementation to achieve desired outcomes is a waste of time and economic resources. Thus, the researcher observed that majority of the respondents (80%) agreed that the problems of lack of participatory framework, poor planning and lack of capacity building were some of the threats to quality vocational instructor education. In this regard the study noted that neglect of TVET instructor education impacted negatively on instructional implementation within vocational training institutions and contributed to poor performance by trainees.

This formed a literature gap in that this study sought whether these problems existed among VET instructors but did not explore on possible remedies to some of these problems. Besides, the researcher used only a questionnaire as a research instrument under survey research design to seek information from respondents. This posed a serious gap in literature that the current study fulfilled using survey design under explanatory approach where two sets of sampled YPs that were government supported and privately managed were studied. Such a design brought out good practices by detailing pertinent issues affecting adequate instructional delivery and set a way forward in VET as anticipated by the society. Similar studies carried by (Nwoke, 1989; Okala, 2007; and Adah, 2007) concur with these findings and lamented that lack of instructors’ adequate exposure through attendance to conferences and workshops due to non sponsorship or diversion of such funds by administrators for other uses deteriorated the dreams of achieving adequate instructional delivery among trainees.
A study of “Technical Vocational Instructor/Instructor Training (TVITT) Challenges” carried out in Trinidad and Tobago by Corbin and John (2011:4) found out that lowest VET instructor candidates received Technical Vocational Instructor/Instructor Training Diplomas. Besides, instructor training programmes allowed the candidates one day a week to attend classes on part-time bases in the nearby industries. The researcher observes that strategy for the development of VET in the Republic of Trinidad and Tobago, since 2008, has been the sole responsibility of the Metal Industries Company (MIC), Technical Vocational Instructor Training and Development Unit (TVITTDU). This type of training enjoyed industry-stakeholder partnerships model where the training institution delivered the TVITT programme with full autonomy. The study underscored that it was the responsibility of MIC’s TVITTDU to adequately develop the instructors pedagogical and andragogical cognitive delivery skills as well as provide the training that would help the instructors implement the new VET curricula. This left a large literature gap in instructor training geared towards collaboration with industry which this study fulfilled among studied YP instructors. It should be appreciated that Corbin and John used a case study to examining a single instructor training institution; however the current study sought ways instructors trained for both trade content and pedagogical knowledge among selected YPs under survey research using explanatory approach.

In a paper presented by Parris in a UNESCO Conference in Brasilia UNESCO (2002:8) on "Instructors Performance in Latin America and the Caribbean: Time for New Priorities; The Barbados Experience" it was observed that VET instructors training programme allocates one week off from the classroom, during each term, for participants to be engaged in activities related to the course. These include visits to private sector organisations, as well as other
educational institutions, oral presentations, and practical activities including, simulated 
interviews and meetings. In addition, they benefit from guest presentations on topics such as 
drug abuse, children at risk, industrial relations and personal development. The paper further 
articulates that as for all college-based courses, participants undertake a course in Basic 
Technology Master through a series of workshops. Some of these courses are scheduled 
during holidays, usually for eight days duration. These workshops are designed for two main 
purposes, namely to: strengthen the reform thrust of the Ministry of Education, Youth Affairs 
and Sports that is charged with the responsibility of running VET and provide an opportunity 
for instructors to engage in professional development activities such as technological changes 
in instructional delivery mechanisms and creative school leadership in a context of change. 
Therefore, it is important to appreciate that VET instructors in Latin America and the 
Caribbean undergo inservice training in line with technological requirements for adequate 
instructional delivery within their institutions, which formed a literature gap which the 
current study sought to fulfill among YPs in MIEMCK.

These studies continued to observe that in Barbados, there was growing concern among 
educators and the general public, that boys were underperforming in the classroom, 
particularly in lower secondary schools (where VET courses are offered) (UNESCO 
(2002:9). The paper noted, as a response to these problems, the college developed a fifty- 
hour workshop on a one day release basis for ten weeks to address gender issues in education 
by sensitising participants (VET instructors and Ministry of education officials) about gender 
issues in education. This Report underscored the fact that this sensitivity would bring about 
changes in practice that would allow students to maximise available educational 
opportunities regardless of sex. It was also hoped that participants would analyse the reasons
why there were differences between the achievement of boys and girls and implement strategies to address those imbalances.

In this regard, it was noted that colleges offer programmes constituting a series of presentations from practitioners in the field of education, and other personnel including psychologists and counselors. As a result, the participants were required to share, as part of the programme, to sensitise other staff members as well as the parents of the school. In addition, they were encouraged to develop gender specific activities to enhance the students’ performance.

Such programmes that could address gender imbalance in VET among trainees in the MIEMCK have scarcely been documented. Besides, the roles of instructors in championing such programmes within their training institutions and immediate neighbourhood communities were rare hence formed a literature gap that needed to be filled.

In the same report (UNESCO, 2002:10) continues to address the issues of component of technological infrastructure that provided for the introduction of technology in all the Barbados Island’s schools which included hardware, software and networking infrastructure. Thus, all schools were equipped with computers, associated peripherals and other equipment to include, overhead projectors, scanners and digital cameras. Further, the report documents that each classroom would have an instructor’s media centre, consisting of a television, a video cassette recorder and an electronic whiteboard. The report observed that these were expected to enhance the instructor’s presentation of lessons. On the other hand instructors were encouraged to use web-based products where possible in the course of their instructions.
UNESCO (2002:13) continues to claim that the advent of Education Technology (Edutech) signaled a systemic approach to education reform in Barbados and was considered as a school improvement project. The curriculum reform component addressed issues both at the primary, as well as the secondary and VET levels. It emphasises that instructors employ student-centred approaches during instructional delivery, the integration of technology into the curriculum and the integration of subjects across the curriculum. Indeed this study asserts that there was a focus on social and emotional learning, as it recognised that this was an important aspect of the student’s development. Some prominence was given to alternative methods of assessment, particularly portfolio and continuous assessment. Besides pencil and paper tests, instructors were encouraged to include other forms of assessment that are practical based as these were perceived to minimise the one-shot examination and give instructors an overall view of student’s performance over time. Lack of documentation of usage of such educational technology materials during instructional delivery among studied YPs were rarely documented in the curriculum, hence necessitated the current study.

One of the greatest handicaps in the improvement of vocational and technical education is human resource planning that has led to the acute shortage of qualified instructors. Nwachukwu (2001) as cited by Kennedy, (2012:49) observed that there is a noticeable lack of instructor preparation and in-service programmes and also difficulty in recruiting well educated instructors with skills and competence in vocational and technical education. A study by Kennedy, (2012:51) entitled “Resource Management and Planning in Vocational and Technical Education for National Development” in Nigeria observes that employees are resources that should be effectively managed if an organisation is to be successful. Without
proper human resources, even the best designed organisation that is guided by well-made plans, with necessary equipment, cannot achieve its performance potential. This researcher opined that it is the people who supply the organisation with their human effort and work. Workers use their talent to creatively combine and utilise the equipment, machine tools and other non-human resources. Further, the study claims that without competent people to manage the non-resources, the organisation will either pursue inappropriate goals or find it difficult to achieve appropriate goals once they have been set. Thus, an organisation has to plan for its human resources needs for now and the future.

Kennedy (2012) sought the opinion of respondents on qualities of management of TVET institutions in Nigeria and found out that management and implementation problems of training were in dire need to be improved. The study noted strongly that the skills and the knowledge of the teaching staff in vocational schools needed to be improved. In general a stronger awareness must be created both for the development of human resources and a more efficient management of VET so that scarce resources can be better utilised. Thus, in its findings this study recommended increased promotion of vocational qualification measures as a prerequisite for better information campaign at institutions of primary education. Furthermore, systematic information on concrete training schemes could be disseminated enabling the young pupils to gain some initial vocational orientation.

Moreover, these studies by Kennedy (2012) continue to claim that vocational training institutions should be interested in improving the efficiency and relevance of their activities that should be reflected in their adoption of management mechanisms aimed at ensuring quality. Such measures include modernisation processes such as personnel training,
identification of critical factors, spelling out of a mission and vision entailing the qualitative upgrading of the institution.

Moreover, studies by Kennedy (2012) document that some of VET institutions in the Caribbean and Latin America take part in national mechanisms of evaluation and quality control for their centres and other operational units. They likewise participate in other evaluation systems. The National Training Institute of Costa Rica, for instance, was given top rating in an evaluation based on indicators carried out by the Costa Rican National Evaluation System (SINE) among 29 public institutions of the country (Kennedy, 2012).

ILO (2001:10) point out that on the standardisation platform there are institutions that have become involved in national quality drives and work in association with national standardisation and accreditation bodies. Such joint work has resulted in the accreditation of the technological centres of training institutions to offer services in metrology or testing, as required for compliance by various products with quality standards in national and international markets. Such is the case of the SENAI National Technology Centres (Brazil) and SENA Technological Development Centres (Colombia). In this way, VET institutions have provided training and consultant services to firms for the implementation of quality control systems. Hence, the service of increasing frequency rendered by institutions, like the SENATI of Peru, whose Service Centres for Small and Medium Enterprises deliver training with an emphasis on quality is desirable.

A number of changes have taken place over the past few years to challenge vocational training institutions in the Caribbean (ILO, 2001:11). The results have led to a more proactive TVET system which is being reflected at both national and regional levels in
vocational skill delivery, skill qualification recognition, and the promotion of greater institutional linkages. However, these studies found out that the major changes include a shift of training delivery from the public sector to the private sector; lessening of opportunities for low skill and low income jobs; strengthening of policies on human resource development that encourage people to participate in their own development; and a move to a Caribbean Common Market (CARICOM) economy. Thus each of these issues is not only redefining the workplace but is also changing the way people are preparing themselves for employment (ILO, 2001:11).

In the long run ILO (2001:11) observe that the impetus behind employment changes in the operation of VET institutions is part of a broadening strategic vision in areas related to employment-driven training. Such a vision is being articulated in the way people seek meaningful work through support from VET institutions. The view in the region suggests that jobs need to offer both economic rewards and life fulfillment, through self-expression and dignity (ILO, 2001:12). In this regard, the nature of training offered by YPs in the MIEMCK was scarcely documented. Furthermore the instructional delivery mechanisms that are technological in nature had to be recorded hence needed the current study.

2.3 Instructors’ Remunerations
A study by Akyeampong (2002:32) observed that the total recurrent expenditure on teachers’ salaries and allowances were quite high in some vocational schools compared to the other schools in Ghana. Akyeampong (2002) observed that instructors’ salaries in the agriculture department at Mankessim School constituted about 60% of the total spending in that department. Similarly, it was observed that in technical department, teachers’ salaries and allowances accounted for 55% of total recurrent expenditure. In contrast the researcher
found out that in Oguaa School, total recurrent expenditure on teachers’ salaries and allowances in agriculture and technical departments were 43% and 36% of total recurrent expenditure respectively.

Akyeampong (2002) concluded that even though there were fewer teachers in both Oguaa and Mankessim schools, their salaries as a proportion of the department’s total recurrent expenditure were quite high. The salaries of agriculture teachers also tend to be higher than those of technical teachers simply because majority of the agriculture teachers possessed professional teachers’ certificate in addition to qualification in the specialist subject. With the exception of one teacher in Mfantsipim, all the technical teachers were non-professional teachers whose only qualification was higher national diploma (HDip). Their non-professional status meant their salaries were lower those that of Agriculture teachers. Further, these studies found out that most of the schools could not provide data on teachers’ other emoluments. The researcher observed that earlier, the Ministry of Education in September 2001 directed that schools should not charge additional fees except those approved by the Ministry. Akyeampong (2002) documented that additional fees were being charged and used to pay for extra teaching periods. However, it was not known to what extent instructors in YPs were remunerated within their training institutions. This information was scarce among YPs in the MIEMCK which the current study sought and documented.

Akyeampong (2002:37) computed the total teaching cost as the sum total of expenditure on teachers’ salaries and allowances, other emoluments and expenditure specific to the various subjects in a programme. Thus, the researcher found out that in Mfantsipim Technical School technical subjects had high teaching cost per student and high teaching cost per student
period. Oguaa Secondary Technical incurred high teaching cost per student and per student period in its technical programme. These studies explained that the reason for the high cost at Oguaa Secondary Technical was low enrolment of 8 students per subject against 41 woodwork technology students in Mfantsipim. Thus, economies of scales applied in this school as opposed to Oguaa Secondary Technical. Besides, the researcher observed that teaching cost per student was generally higher in Oguaa Secondary Technical than in Mfantsipim because of the lower enrolment per subject in Oguaa. Likewise, these studies documented that in Mankessim Secondary Technical, the relatively higher enrolment per subject translated to lower teaching costs per student and teaching costs per student period. This is because the student enrolment per subject in Mankessim was 117. This enrolment was much higher than at Mfantsipim School and Oguaa Secondary Technical. Akyeampong (2002:37) observe that the levels of student enrolment and number of teachers employed are important factors in determining the levels of recurrent costs. It was also observed that technical subjects were expensive to put up and run because of specific fees that were charged because of the high costs of procuring training equipment. Thus, this study sought the levels of trainees’ enrollment and instructors staffing for adequate instructional delivery among the studied YPs.

2.4 Vocational Education and Training Curricula
The current study adopted UNESCO meaning of ICT to refer to forms of technology that are used to transmit, store, create, display, share or exchange information by electronic means. This broad definition of ICT includes such technologies as radio, television, video, Digital Video Disc (DVD), telephone (both fixed line and mobile phones), satellite systems, computer and network hardware and software as well as the equipment and services
associated with these technologies, such as videoconferencing, e-mail and blogs (UNESCO, 2002). Such changes occur in technology in helping instructors to deliver their instructions to students. These changes have been especially important to VET programmes in supporting workforce development (Buntat, Saud, Arifin and Zaid 2010). According to Paryono and Omar (2008) ICT in education has also been identified as the top trend issue in VET. Currently, the use of ICT has become a powerful technology tool in delivering VET programme around the globe since ICT technologies are developing at a rapid pace that need to be emulated (Wonacott, 2001).

Summak and Samancioğlu, (2011:73) in a study entitled “Assessment of technology integration in vocational education and training schools” among Turkish VET Schools observe that in the area of vocational education and training, the integration of Information Communication Technology (ICT) is not only an option but also a necessity for making the education process more attractive. Furthermore, similar observations were made by (Paryono and Quito, 2010).

Consequently, computer technology has a great effect on teaching and learning vocational programmes, carrying the potential to deliver VET to more learners in satisfactory ways. Summak and Samancioglu, (2011) in their studies reinforced study findings by (Jawarneh, El-Hersh and Khazaleh, 2007; Moreno, Helenius and Jarmo, 2001 and Hull, 1999) where they found out that integration of ICT into vocational instruction could provide schools with potential access to the world of work outside the school environment. ICT allows instructors to design useful learning environments that emphasise learning in the context of real world activities for vocational students. Besides, McKenzie (1998) noted that ICT would be used broadly to deliver the VET programmes in the future, in response to technology changes.
In their studies (Kuşkaya-Mumcu and Koçak-Usluel, 2010) as cited by Summak and Samancioglu, (2011:75) confirm that instructors’ perceptions are very important to the success or failure of integrating ICT into instruction, and they play a significant role in this process. Thus, the instructor has been the change agent and plays a critical role in the success of teaching and learning in VET programmes. The same studies argue that vocational instructors should model the appropriate uses of ICT resources in the workshop and classroom to help equip their students with the necessary knowledge and skills to use trade tools effectively in their working.

Jawarneh et al (2007) carried out a study to determine the perceived ICT skill levels of VET instructors and the degree to which they use these skills in their instruction among selected Turkish VET institutions. The study revealed that vocational instructors’ basic ICT skills were moderate. They also found that word processing is the most widely used computer software in the classroom by vocational instructors. With regard to the degree of the use of these ICT skills, vocational instructors’ ratings fell in the moderate category. In terms of gender, no significant difference was found between males and females regarding their basic computer skills, designing instructional software lessons and computer software use.

Buntat et al (2010), Jawarneh et al. (2007); Kuşkaya-Mumcu and Koçak-Usluel, (2004) in their study findings agree that to ensure technical and vocational programmes are relevant to the society, VET instructors must be able to use these new technologies that are continually changing the way people live, work, and learn. In this respect, these studies concluded that VET instructors should keep pace with changing technology in order to ensure their roles
remain relevant to produce future labour; since their competency in ICT is essential as successful instructional leaders in transferring this competency to their trainees.

Kuşkaya-Mumcu and Koçak-Usluel, (2004) investigated computer usage by VET instructors in Turkey and found out that computer usage of instructors declined with instructor’s age as years of experiences were increased. In terms of gender, the study documented that male instructors use computers more than females. Six years later, in another study Kuşkaya-Mumcu and Koçak-Usluel, (2010) investigated the ICT usage purposes of Turkish VET school instructors. They found that instructors used ICT most frequently for managerial purposes, and the least for instructional purposes. They also indicated that instructors’ use of ICT for in-class activities was less frequent than their use of it for out-class activities. In terms of age, while the age of instructors increased, their use of ICT for instructional, managerial and personal purposes decreased.

In addition, other researchers (Moersch 1999; Moses, 2006; Rakes et al. 2006) investigated instructors’ level of instructional and personal computer use, and their instructional practices in non-vocational education settings. Moersch (1999) studied 122 instructors and found out that approximately half of the respondent instructors used technology-based tools to supplement existing instructional programme as tutorials, educational games, and simulations. More than a quarter of the participants integrated technology-based tools into classroom activities to enrich students’ understanding of pertinent concepts, themes, and processes. Almost all of the instructors perceived their ability to use basic software applications or troubleshoot routine computer problems as either not true or somewhat true.
In conclusion, Moersch (1999) noted that more than half of the instructors selected did not use computer-based technology in their classroom for learner-based approaches to instruction and assessment. The rest of the participants did not perceive their current instructional practices as aligning with a learner-based design.

In another study, Rakes et al (2006) examined 4th and 8th grade instructors in 11 school Sub Counties in Turkish VET institutions and reached the conclusion that less than a quarter of instructors were integrating computer-based technologies into the classroom frequently. The rest of the instructors were low at instructional computer use. Rakes et al. (2006) also stated that the instructors were using computers moderately for personal purposes. More than half of the respondents used constructivist teaching practice at a least moderate degree. Moreover, Moses, (2006) researched on 390 K-12 instructors’ level of technology integration and instructional practices in Texas and found out that although most instructors were using computers in their personal life at high levels, only a small portion of them were using computer technologies in the classroom. In terms of constructivist instructional practices, most of the instructors were at moderate level. Moses, (2006) also indicated that younger instructors had the highest level of personal computer use and as years of teaching experience increased, the overall personal computer use level decreased.

In an exhaustive review of numerous studies about the impact of ICTs on schools in Europe, Balanskat, Roger, and Stella (2006) reported that in the early 90s, Internet-based training began, and in the late 90s to the early 2000 e-learning became the vogue among educators. Starting in late 2000 technologies such as social software like wikis, blogs, and the like became popular. These findings argue that technologies have continued to be popular and
their use among education and training professionals has increased substantially, particularly because more and more software have become accessible as freeware.

Balanskat, *et al.* (2006) agree that ICT has been established to increase motivational levels of learners, improve skill performance of learners, enhance abilities in independent learning as well as increase abilities for teamwork. Besides, there is considerable evidence on the impact of ICTs on instructors and teaching. According to Balanskat, *et al.* (2006) ICT usage in instructional delivery includes increased enthusiasm, increased efficiency and collaboration. This researcher observed that instructors’ basic skills in using ICTs had improved dramatically over the last few years due to practice. This study observed that among the most intensive users of ICTs are instructors in science, mathematics, computer science, and vocational education.

The review of European studies by Balanskat, *et al.* (2006) concluded that ICTs are still underexploited to improve teaching and learning experiences, particularly in the area of generation of new knowledge as collaborative effort between an instructor and learners. However, Balanskat, *et al.* (2006) documented factors that impede successful use of ICTs in schools as follows:

1. Instructor-level barriers which include poor ICT competence, low motivation, and lack of confidence in use of new technologies. These directly affect the quality of training programmes.

2. School-level barriers which include limited access to or lack of resources and poor organisation of ICT resources, which may be reflected in poor maintenance of hardware and perhaps even unsuitable software. The researcher noted a discernible indication of absence of clear strategies for use of ICTs in the schools.
3. System-level barriers that refer to educational systems in countries having rigid assessment structures or procedure that impede the integration of ICTs in the learning process.

These findings pointed to a new instructional development trend into the world in which VET institutions are propelling their training practices so as to meet the expectations of their societies despite various challenges encountered in the process of implementing ICT. This was a potential literature gap that the current study closed among YPs instructional delivery mechanisms in the MIEMCK.

ILO (2001:17-18) observes that a re-evaluation of training within the labour systems and an increasing interest on the part of the different players in its regard has been instituted among the Caribbean and Latin American countries. The study found out that:

1. The international insertion strategies of the economies of the region have changed and therefore domestic production begins to be exposed to other kinds of rules which require urgent action to improve competitiveness. This has led to an intensification of the pace of technological change applied to production, a reduction in the life cycles of products and, therefore, also of skills, generating constant pressure for their updating.

2. The relative importance of the “knowledge factor” within new forms of organisation of production and labour has increased remarkably. Thus, information and knowledge becomes strategic and control means of production. The capacity to generate knowledge and to manage it within the concept of learning organisations is considered a key strength for competitiveness and has resulted in a revaluation of human talent.

3. The assumption of sustained and indefinite growth of production and employment, or rather of the direct relationship between them, has been shown to be invalid. The study
contends that although production may continue to grow, as in fact it does, employment generation does not occur in correlation with it and, in many cases; countries face the new and worrying phenomenon of economic and productive growth with rising unemployment. The findings indicated that employment growth in the most economically dynamic sectors is not enough to compensate, in many cases, the dismissals arising from the new capital-labour relationship, affected by the introduction of technological innovations and by the closings occurring in sectors incapable of counteracting the competition of goods from abroad. These studies concur that it is within this new state of affairs that training appears revalued and begins to be perceived as a strategic subject. These findings formed a knowledge gap that the current study fulfilled.

The most innovative experiences at the regional level on the subject of training conceive the latter as part of a set of technology transfer actions, both of labour and of production, adaptation and innovation. This marks a turning point, both in conceptual and methodological, in the action of institutions, training centres and technological education units (ILO 2001:20). These studies observe that in conceptual terms, these experiences are characterised by specialising to a certain extent towards specific economic sectors such as mechanics, pulp and paper, leather, footwear and construction, among others which allows among other benefits, a greater degree of technological updating of machinery, equipment and materials, and regarding knowledge and techniques applied to production.

Further, these studies assert that either as a conceptualisation prior to these changes, or as a practical result thereof, what is certain is that there is also a change in the notion of which the subjects are to which these units, services and centres cater. If previously the main population catered for consisted basically of individual workers, today these new experiences also
conceive productive units like firms of various sizes and characteristics, their productive links and organisations, and the economic sectors themselves, as part of their primary audience.

These studies found out that institutional services greater potential lies in the processes of strengthening the up-to-datedness, relevance and quality of the training itself. The dovetailing in an appropriate environment of training and education, labour and technology, enables mechanisms to be structured by means of which there is an acquirement of, besides solid technical and technological knowledge, the values, habits and behaviour inherent to the competences which present historical circumstances required of workers, technicians and professionals.

ILO (2001) argues that a fundamental characteristic of this new conception of training lies in the incorporation of content and methodologies belonging to what has been called “technological education.” This involves recording, systematising, understanding and using the technology concept, historically and socially constructed, to make of it an element of teaching, research and extension, in a dimension that exceeds the boundaries of simple technical applications. This is an instrument of innovation and transformation of economic activities, to the benefit of man as worker and of the country.

ILO (2001:21) avers that a survey of what is happening in the Caribbean indicates that, on the one hand, a good part of the training institutions, both public and private, are dealing with the challenge of establishing a closer link between the supply of training and the processes of innovation, development and transfer of technology. In this respect VET institutions seek to transmit to trainee different dimensions capable of making him or her able to cope with the
scientific-technological evolution of the modern world and, in this manner, allow them to contribute their intelligence, creativity and effort inside the productive unit.

Findings by ILO (2001) brought out interesting observations on VET; especially imparting knowledge on the aspects of the scientific-technological evolution of the modern world posed a huge literature gap that the current study fulfilled. Moreover, Bartram and George (2000:46-47) in a study entitled “Training of Technical and Vocational Instructors: A Case Study of a Low Tech Alternative” among the Caribbean States observe that as a result of the rapid growth in the demand for TVET instructors during the 1980’s and 1990’s, many of the teaching staff employed possessed the necessary technical skills but had no opportunity to undertake professional (pedagogical) training. These studies lament that in many countries, staff members were unable to acquire the necessary professional skills because they were not located in major urban centres where there were instructor training institutions or universities offering these relevant programmes. Many of these instructors lacked the resources to access computer-based learning or support the connectivity costs. Indeed, some rural areas were even without reliable electricity or telephone networks. These studies continue to claim that the Caribbean countries continue to enjoy technical and vocational instructor training core curriculum comprising of 12 modules that demonstrate a balance between generic teaching skills, such as “Educational Theory and Practice”, “Language and Communication” and “Educational Technology”, and TVET-specific modules, such as “Administration and Management of TVET”, “Workshop Organisation Management” and “Safety”.

Besides, the researchers observe that experts and/or institutions then prepared the learning materials with special skills located in member countries across the Commonwealth states. For example, Bartram and George (2000) observe that open Polytechnic from New Zealand
prepared the module on “Safety”; the Adelaide Institute of TAFE wrote “Learning Resources”, the University of Technology, Jamaica, prepared “Entrepreneurship” and the Bangladesh Open University prepared units in “Educational Theory and Practice”. This indicates a system of collaboration between, and, among institutions of higher learning like universities in VET instructors’ curriculum making geared towards addressing instructional acquisition by trainers, for this trickles down to the trainees at the workshop floor.

Bartram and George (2000:53) observed that the programme offered were modular and flexible. Thus, learners were able to select those modules, which met their particular needs. Modules were made to be able to stand alone, if necessary, supporting particular professional development activities where required. Further, the researcher found out that the units in each module had to be flexible in order to support traditional classroom-based teaching, as well as traditional distance education, print-based teaching or any point on the continuum between these two extremes. They had to be designed so that trainees using the materials could study with a degree of independence and not rely on remote libraries being able to provide books and articles.

Moreover, Bartram and George (2000) claim that since the curriculum materials were bulky, the Compact Disc-Read Only Memory (CD-ROM) technology was used to transport the programme to the various countries, where they could download and print the materials as required. The study documents that efforts could be made to improve the interaction between instructor and student and between groups of trainees using appropriate technology. This could involve radio and, depending upon the capabilities in various countries and instructional situations, may also involve e-mail. This indicated that many Caribbean countries offered their VET through modern technology which is ruling the world today.
Indeed it was interesting to find out whether YPs in the MIEMCK had adopted such technology in disseminating instructions to their trainees, hence closed this gap in literature.

According to a study by Birgit, (2006) on “Whose Education for All?” as cited by experiences made in Guinea convinced the researcher that at least the non-formal schooling should aim at giving children qualifications which would enable them find or create a job for themselves. In this regard Birgit observes that Guinea runs a non-formal education programme aimed at improving girls’ vocational related skills. The programme was government initiated, supported by UNICEF and with Norway as one of the donors. A part of the programme was the establishing of the so-called NAFA centres for non-formal education. The study acknowledged that the local communities in the various Sub Counties were strongly involved, through self-help projects; in building the NAFA centres for non-formal education and that communities were proud of these centres. The learners seemed to be more interested in the vocational skills they acquired. Birgit, (2006) documents that the NAFA centres recruit children aged between 10 and 16 years who have never been to school or have dropped out at an early stage. The programme lasts for three years and follows another curriculum and time-schedule than the formal schools. Birgit, (2006) noted that while the formal school starts at 8 a.m., the NAFA centres open at 9 a.m., so that the girls are able to do some domestic chores before school. The centres close at 1 p.m. and stay open for only four days a week. The curriculum includes vocational subjects that aim at giving the learners a practical training. The vocational subjects included sewing, making of batik and “tie and dye”, carpentry and the making of soap and of bricks for building of houses. Indeed this study showed some of the affirmative action taken by Guinea to offer vocational skills to school dropouts and out of school youths by involving Non Governmental Organisations as
financials of the programme in collaboration with the host community. This formed a knowledge gap that was filled among YPs in the MIEMCK.

Besides, Birgit, (2006) observes that trainees who had chosen soap-making were working together with professional soap-makers and had firsthand experience. The trainees hoped to gain adequate skills in soap making that would enable them become versatile when they complete training. This shows a collaborative effort between a VET institution and local industry for adequate acquisition of practical skills by trainees. These findings gave impetus to the current study to find out the nature of curriculum flexibility offered by YPs in response to addressing vocational training to out of school youths; and the existence of established local industry collaboration in training especially in the MIEMCK.

Grov, (1999:66) observes that community insistence on the need for vocational training for older children deserves serious consideration. The study continues to observe that in order to meet the need for VET; one should try to persuade local professionals and craftsmen to help the pupils to learn the skills. According to these observations by Grov it seem the responsibility of the individual instructor with little training, a heavy work-load and low pay to decide on and implement vocational training.

Grov, (1999) continues to lament that one cannot expect these instructors to engage in time-consuming vocational activities without any financial and moral support. Neither can one expect them to be successful in persuading local craftsmen to do the training when there are no funds set aside for such an activity. The study citing from the work of Hoppers, who has done extensive research on vocational education in Africa, notes: “Work orientation, of whatever approach, can only succeed to the extent that the instructors are motivated,
prepared and also supported in their efforts to give meaning to basic education” (Hoppers, 1996). Grov, (1999:66) on observing VET programme in Uganda; concludes that vocational training would have added relevance and quality to the non-formal school-system programme; only if "the individual instructor must receive support and encouragement from both Sub County and national level for such an improvement to fully succeed”.

Grov (1999:69) noted that similar programmes in Bushenyi Uganda at the end of August 1997 had a great difference in drop-out rate between two non-formal schools in the area. The researcher attributed this difference in drop-out rate mostly to the fact that in one of the schools the instructor had promised the children who attended the school regularly that they would, at the end of the year, learn some vocational skills from him in his home. These skills included brick-making, building of a house, baking of bread and gardening, especially growing of herbs. The researcher noted that no vocational skills or promises of the learning of such skills were part of the curriculum of the non-formal school with a high dropout rate.

Moreover, the same study found out that an instructor who had arranged a small garden in order to teach the non-formal pupils how to grow different vegetables was very motivated and had a lot of plans for vocational activities she wanted to include in her work. The researcher articulated that a policy which leaves so much up to the initiative of the individual instructor and is not backed up by financial support is, however, not sustainable. These findings were very interesting in that non-formal education, especially VET in Uganda was not taken seriously with a poorly organised curriculum and lacking financial support, hence the current study documented how curriculum issues are handled among YPs in the MIEMCK.
According to Tremblay and Irène (2003:12), the vocational training system in the Federal Republic of Germany is the result of collaboration between the public and private sectors. This refers to any public and private institutions or activities that directly or indirectly serve to provide occupational qualifications. In other words, vocational training is based on institutional procedures and tripartite negotiation that include three major actors: public authorities, employers’ organisations and trade unions. The study continued to note that the costs of school-based training are absorbed by the state and the costs of practical training are absorbed by firms that provide the apprenticeship places and take in trainees. These studies document that the “dual system” of vocational training in Germany is based on three main principles: duality, the primacy of crafts, and consensus. Thus, the study observes that alternation between training in vocational schools and training in firms provides the fundamental structure of the vocational training system. While in-firm training is regulated nationally, the vocational school instruction programmes are the responsibility of the states. This situation required the establishment of mechanisms to harmonise programmes and negotiate with partners. In fact, the study points out that the 1969 Vocational Training Act only regulated in-firm training, otherwise workplace training is based on a contract signed by an apprentice and an employer. Each contracting party undertakes to provide or acquire the knowledge and skills required for the qualification concerned. The study further noted that most apprentices in the dual system spend two weekdays in public vocational schools where they are taught general subjects (language, economics, and mathematics among others) and receive theoretical grounding in the chosen occupation. The rest of the week (three days) is spent in the workplace. Thus, the trainees are exposed to more practical work compared to theory lessons. However, more and more firms prefer that apprentices spend
entire weeks or months in the school system, followed by periods in the workplace, in order to minimise disruption of the production process.

These studies underscored the fact that generally, young apprentices undertaking their training in small- and medium-sized businesses where they learn their trade by directly participating in the firm’s production system. On the other hand, those who undergo their apprenticeship in a large firm are trained in the firm’s vocational training centre. However, in recent years, joint training centres for both small- and medium-sized firms have been created. Such information about industry VET institution training collaboration was scarce among YPs in the MIEMCK hence necessitated the current study. Further, Tremblay and Irène, (2003:13-15) continue to claim that training under the dual system does not focus on the specific needs of the training firms but is meant to provide the skills needed to perform a craft or occupation. Thus, vocational training must focus on “broad basic vocational knowledge and the knowledge and technical skills required in performing an occupational activity.” Further, these findings observe that training referentials are developed on this basis with the participation of social partners (employer and union federations). The referentials are then adopted by the competent federal minister on the basis of the consensus obtained. The Federal Institute for Vocational Training (BIBB), which includes a great number of researchers and experts on training, contributes to developing the training materials through its research studies and also by leading and arbitrating the negotiating process. These studies observe that referentials, which refer to the skills and knowledge which must be taught, are minimum standards of training profile. They are implemented as an analytical and chronological programme (master training plan). According to the managers of large firms
whom were interviewed, the training that they provide goes well beyond these minimum standards which would not provide trainees with sufficient skills.

So as to take into account the different levels of technological change among firms and avoid having referentials becoming outdated too rapidly, the same study notes that referentials no longer include references to processes or equipment but refer to tasks or functions, (Tremblay and Irène, 2003:13-15). The study by Tremblay and Irène, (2003:16) further argue that the German training system is based on differentiation between the needs of a given firm and the requirements for a given occupation. Thus, while trade unions prefer to have the broadest possible training to foster the trainee’s occupational autonomy, employers advocate a narrower and directly operational training. In this connection, these researchers claim that this happened because the review of metal working trades took ten years to become effective. This process was criticised for taking too long. Issues of curriculum making in YPs in consultation with experts, vocational training trade unions and the local industries in MIEMCK were scarcely documented hence necessitating this study.

Moreover, Tremblay and Irène, (2003:19) further noted that workplace apprenticeship is the fundamental principle of vocational training in Germany and is thought to combine the most favourable conditions for developing skills. Skills include the capacity to take on the responsibilities involved in completing tasks, the ability to communicate and work in a team, the ability to think in terms of systems, and the ability of learning to learn. These skills are combined with theoretical knowledge and occupation related skills. Because it is considered vital to skill development that training be sufficiently long, training under the dual system lasts three years.
These studies observe that the dual system is based on the close cooperation between the vocational training school system and firms. Because the equilibrium of the system depends on the supply of training places by firms, they play a prominent role. When firms agree to provide training places, they must comply with the various laws and regulations governing vocational training procedures. These regulations are perceived important for the development of vocational training standards as well as the implementation and control of training.

Reiss (1997: 37) observes that the assessment of trainees in the dual system of Germany is based on three types of certification. Thus: a certificate issued at the end of the training period upon successful completion of a final national examination, which all trainees must take, regardless of industry sector; a certificate issued by the firm’s trainer; and an assessment by the vocational training school. Thus, the study underscores that the combination of these three external and internal assessments helps ensure that standards of competency are maintained and not left solely under the control of the firm where the training takes place. These three certificates make up a “certification system” whose components are independent and complementary but not coordinated. Further, this study found out that the certificate issued following the standardised national examination is a combination of a written and an oral test. It serves to ensure that the national objectives of vocational training are achieved. The impact of a triple certification system on the labour market seems to be quite complex. According to the experts and actors interviewed by these studies agree that “certification system” has great advantages in that highly standardised training helps maintain high levels of qualification on the labour market. Besides, employers have sufficient information when recruiting staff and standardised qualification constitutes a
basis for negotiating wages. Moreover, trainees remain highly motivated owing to the advantages provided by the certificates and the system helps support the implementation of new training regulations and contents.

However, these studies agree that although the system of triple certification has numerous advantages, it also has problems which are not easily solved. The balance between the certificates and their method of assessment is often debated. The Länder, which are in charge of the education system prefer a more internal (school-based) rather than external (firm-based) assessment. Conversely, some firms want to play a more important role in skills assessment. However, Reiss (1997: 40) claims that an assessment which is exclusively based on the in-firm training certificate would have negative effects on apprenticeship and training since it would be based on the principle of minimum required standards. Thus, more advanced and less task-specific skills would not necessarily be included in the assessment, a knowledge gap this study sought to fulfill.

2.5 Trainees’ Requirements for Vocational Education and Training

According to studies by the World Bank, (2007:7) entitled “Skill Challenges in the Caribbean: Phase I Report; School and Work”, shortage of skills appears to present a real obstacle to increased firm competitiveness in the Organisation of Eastern Caribbean States (OECS). The studies observe that several surveys of business executives and investors conducted by governments, the World Bank, and the Organisation for Economic Cooperation and Development (OECD), all indicate that a lack of skilled workers hinders a firm’s growth. These studies contend that in the only internationally comparable survey conducted in the OECS, Grenadian firms seem to have greater difficulties finding workers with the required skills and education than any other country in the entire Western Hemisphere.
The study reaffirms that there seems to be a general disconnect between education and the world of work in the Eastern Caribbean. In a Caribbean survey of 130 well-established companies, of which 105 were from the OECS, majority of business representatives stated, “There has never been a strong nexus between the two bodies (education and business). The relationship between education and business is disjointed” (World Bank, 2007). World Bank, (2007: 11) in support of earlier studies in vocational education at Caribbean documents that over-emphasis on academia leads to an education system that does not necessarily impart skills related to the labour market. These studies by the World Bank, (2007:12) further observed that besides emerging skills needs at the institutional level, communication and joint strategies are called for at the sectoral and local levels. These studies concluded that the United Kingdom (UK) Learning and Skills Councils (LSC) are probably the best example of a model that could be adapted in the Eastern Caribbean because: (i) the Eastern Caribbean education system has, for historical reasons, many similarities to the UK system; (ii) the model has been evaluated extensively and it works; and (iii) it can be implemented relatively and easily in steps. In this regard, these studies documents that at the local level, each (LSC) has representatives from employers, learning providers, and community groups. For example, the Board of the local LSC in Kent and Medway, in southeast England, consists of a bank director, a business proprietor, the director of a real estate company, one union member, four local government representatives, and four members from education and training institutions.

The World Bank, (2007:13) continues to say that in 2006, the local LSC oversaw the development of 12 sector studies of skills needs for Kent and Medway, which included ICT, health and social care, hospitality, the financial and business sector, retail, construction, and the land-based and food sector, among others. With this local analysis and interaction,
employers, education and training providers can ensure that supply of skills matches demand. This reduces unemployment and increases the value of training and firm competitiveness. However, the ICT instructional development materials among YPs in the MIEMCK were thinly known, hence these findings gave impetus to the current study.

World Bank, (2007) asserts that rote memorisation does not provide school leavers with enough necessary job skills; schools should teach “learning to learn.” In an economy where workers are expected to annually improve productivity and constantly deliver new innovative services, learning takes centre stage (World Bank, 2007:17). These studies claim that it is necessary to apply a broader interpretation of skills than the specific knowledge and skill needs that can be deduced from foreseen or desired economic developments. Stimulating such meta-cognitive and creative capital has profound implications for teaching and pedagogy for the instructors and schools in the OECS (World Bank, 2007).

Research carried out by Levy and Murnane (2004) on the skills requirements for tasks performed in the United States of America (USA) labour market is revealing. The authors observed that tasks requiring expert thinking and complex communication grew steadily from the 1970s to the 1990s. The share of the labour force employed in occupations that emphasise routine cognitive or routine manual tasks remained steady in the 1970s and then declined over the subsequent two decades. Finally, the share of the labour force working in occupations that emphasise non-routine manual tasks declined throughout the period.

Salling, (2006b) claim there is a remarkable unequivocal request for behavioural skills, also called “soft skills,” by firms. These include cooperative skills, communication, work ethic, entrepreneurship, and commitment. The results of several surveys of private employers
highlight the extent to which they desire these skills. For instance, in St. Kitts and Nevis, firms’ top three desired skills were attitude to work, team spirit and cooperation skills. In another survey of employers for the wider Caribbean, honesty and integrity, work ethics and problem solving were the top skills required to obtain a job (CFD, 2006). Paradoxically, young students and workers are unaware of this high demand for life skills. In a survey of school leavers in St. Vincent and the Grenadines, only 30 percent of the youth reported that they lacked soft and interpersonal skills. The lack of recognition of the importance of “life skills” in the Eastern Caribbean is not unique (World Bank, 2007:18).

Earlier World Bank, (2007:19) found out that VET training in Canada, encompasses those skills needed for work, learning and life. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change. Through research, the Government of Canada and other national and international agencies have identified and validated nine Essential Skills. These skills are used in nearly every occupation and throughout daily life in different ways and at different levels of complexity. They are: (i) reading text, (ii) document use, (iii) numeracy, (iv) writing, (v) computer use, (vi) oral communication, (vii) working with others, (viii) continuous learning, and (ix) thinking skills (World Bank, 2007:19). The last four relate to life skills. These are worthy entry behaviour requirements by employers.

In addition World Bank (2007) argues that the results of employer surveys showed that ICT is the most demanded technical skill. Furthermore, employers, government officials and trainers frequently point to lack of technical skills for careers such as plumbers, air condition technicians, and maintenance staff. These studies indicate that this view is corroborated both by the enterprises surveyed for the Investment Climate in Grenada and for the case study on
Skills for the Tourism sector in St. Lucia. The findings were that employers report that key skills shortages are found in technical areas such as industrial engineering, and managerial positions at middle and senior management levels. Thus, these studies recommended that higher availability of technical and managerial skills would: (i) reduce the upward wage pressure, which otherwise would escalate labour costs, for example in the construction sector, which currently is booming in several of the OECS countries; (ii) allow more businesses to invest in productivity-enhancing ICT and other cutting edge technology; and (iii) create jobs and business in specific niche industries that are intensive in technical skills. These findings showed that VET trainees need more than traditional trades’ knowledge and skills as expected in the labour market and society where they go to serve after completing their studies. These findings necessitated the current study so as to close the huge literature gaps.

2.6 Financing Vocational Education and Training

Studies conducted by ILO (2001:13) on Caribbean and Latin American countries on financing of VET institutions found out that the main problem in approaching the subject of financing of vocational training is not so much the volume or source of funding, but the rationalisation of this cumulative investment. This implies rationalizing the supply of training that includes quite naturally the reform of traditional structures. The studies agree this reform, however, is no internal matter of traditional systems: it pertains to their coordination and synergy with the new suppliers, and depends on the fact that they must link up with systems that had been relatively independent, like elementary and post-secondary technological education. In other words, the studies noted that the problem of financing is subsidiary to that of institutional organisational arrangements, which in turn must be
reconsidered by players. These studies document several possibilities in Latin America that were enumerated in a purely exploratory fashion, thus:

First, is subsistence of systems of public financing of training at enterprises, with resources obtained through levies or Para-fiscal contributions with specific allocation. Allocation is not always direct and exclusively for vocational training; sometimes it covers areas like the re-adaptation of workers laid off as a result of industrial restructuring or state modernisation, which include occupational retraining, managed now by new agents, like Labour Ministries.

Secondly, is subsistence of the model of public financing of training at enterprises through formal Technical Secondary Education (TSE) systems. The new aspect of this is the growing importance of decentralised administrations (federal states, provinces, departments, municipalities) in the financing of this service, either with their own resources or with transfers from the national budget, pursuant to decentralisation policies.

Thirdly, emergence of systems of tax incentives, whereby enterprises recover their expenditures when they file in their tax returns. Such is the case of Chile, where enterprises that spend on training can get back their expenses when they pay their income tax, up to a ceiling of 1 per cent of the total payroll (ILO, 2001).

Fourthly, is the emergence of methods in VET institutions employing various tactics to operate with flexible procedures. For example, Brazilian enterprises have exemption agreements with The National Training (SENAI) so that instead of paying in to that institution, they can use directly part of their contribution, where this must be authorised by SENAI, and that part can only be used to contract courses with it. In Colombia, for example, enterprises can co-finance in-house training plans with SENAI, and get reimbursements
equivalent to 50 per cent of their Para-fiscal contributions. These studies (ILO, 2001:14) articulate various ways in which some promising financing strategies are becoming apparent in the region, as they seem to fit in with new socio-economic and institutional developments. These are put into three categories as follows:

First, is the setting up of alliances or associations of the state with private executing or intermediary agents, to support training (ILO, 2001:14). In this way enterprises taking advantage of tax exemptions such as in the Chilean case VET institutions, managing authorities of TSE or official agencies in charge of training programmes targeting special populations, as well as Labour Ministries, Social Solidarity networks, and others, are free to contract training services with a wide range of suppliers. This breaks away from the prevailing merging of financing and execution of training services, and promotes the autonomy of regulating, financing and executing bodies.

Second, was diversification of state agents in vocational training who were no longer confined to Ministries of Education and VET institutions. New players have entered the field, like Labour Ministries, Social Welfare Secretariats, or Solidarity Funds, that have become public financing sources. This has been aided by the tendency to engage public and private agencies, with which the traditionally large investments to launch training services seem no longer necessary; advantage is taken instead of private initiatives and resources, whether profit or non-profit making.

Thirdly, is greater participation by firms and enterprises as investors and/or executing agents in the training of their workers. This has led to the creation of veritable training markets, in which multiple public and private suppliers compete with each other. This trend is very
favourable to stimulate the relevance, flexibility and efficiency of training, but there is a risk that market mechanisms, as well as greater leadership by enterprises, may result in a training offer aimed at those who can pay, or meeting the more immediate needs of enterprises; or in low quality offerings, lacking sufficient added value or the cumulative knowledge of the training delivered by institutions.

These findings by ILO among the Caribbean and Latin American countries posed a large gap on financing VET institutions, especially YPs in the MIEMCK which this study sought to close.

In TVET, quality is directly related to the achievement of the learning outcomes; these are knowledge, skills and competence achieved at the end of the learning process that fulfill the key stakeholders’ expectations as students; parents; employers and community, (ME & R, 2006:3). This study summarised the findings from respondents that TVET institutions were expected to fulfill as follows:

Students: Student-centred teaching and learning process; equal opportunities; good information about education and training offered; responsibility regarding own academic and professional evolution; learning programmes that meet their expectations mainly as a result of their active involvement in the self-assessment process at the school level; and increased capacity of employment.

Employers: Confidence in the quality of vocational education, training, and in the validity of the professional certificates; correlation of the provision of initial vocational training to the demand of the employers; adjusting the content of the training provision to the needs of the employers.
TVET Providers: Higher legitimacy and acknowledgment; confidence in own offer of vocational education and training; increased satisfaction of beneficiaries (students, employers, parents); higher chances of employment for graduates; development of a culture of reflection and of continuous improvement for all staff members; responsibility and greater autonomy (by emphasizing the importance of the self-assessment process); facilitation of inter institutional cooperation and dissemination of good practice between TVET providers; access to information about good practices and experiences of success.

Community: Transparency of the TVET programs’ quality; responsibility of TVET providers as a key element in TVET quality assurance; supporting the decentralisation process in technical and vocational education and training; greater public responsibility of TVET providers; increasing TVET programs’ attractiveness. Thus, the current study sought to fill these gaps in VET.

According to studies by Atchoarena, Serge, Ursula, Dios, and Benjamin (2008:133) on Investment in Technical Vocational Education and Training across various countries, low enrolments in TVET was seen to result in small education budgetary allocations. In the Dominican Republic, for example, public and private TVET represented only 1.5 per cent of students in the whole education system. And yet, expenditures for this sector were proportionally high (1.9 per cent of the total education expenditure in 2005), due to high unit costs. The study findings attributed these low budgetary allocations to smaller classes and expensive equipment which is a predominant characteristic of TVET delivery systems.

In some of their findings, (Atchoarena, et al. 2008) found out that TVET is a privileged area for partnerships with the private sector. In many countries private providers are numerous.
and linkages with employers for apprenticeships, company-based training or funding are common. In some countries, for example Korea and Germany, companies are legally obliged to contribute to vocational training and apprenticeship programmes. The studies articulated that private provision of TVET is recurrent in countries where there is a market demand for job qualifications. They assert that private providers prefer to engage in areas such as computer or commercial skills that are in high demand and require lighter investment, rather than more costly areas such as industrial trades.

Furthermore, (Atchoarena, et al. 2008) documented that in the Philippines, for instance, public funds from central and local government and official development assistance constitute 46 per cent of TVET expenditures. Companies fund apprenticeship programmes or give allowances to students within the dual system, non-governmental organisations run short community-based courses, and foundations sponsor training institutions. Altogether, private suppliers constitute 22 per cent of total TVET expenditures. Student fees in both private and public institutions represent 29 per cent of total TVET expenditure, and TVET institutions generate 3 per cent of their incomes (Atchoarena, et al. 2008:145). However, these studies noted that a comprehensive understanding of TVET costs becomes a methodological challenge when pedagogical, organisational and financial systems are diversified. This is particularly the case when providers deliver both academic and vocational courses within a single financial management system. These studies further observe that juxtaposing courses of varying lengths and in different trade areas is also complex for cost analysis (Atchoarena, et al. 2008:151). These studies left a literature gap that the current study sought to close on meeting financial training obligations by VET institutions in the MIEMCK.
On the question of financing VET institutions Kennedy, (2012:56) stated that wide variations in methods of financing education programmes cause real problems. The study found out that many states in Nigeria would like to offer a variety of vocational and technical education programmes to give students training yet do not permit this to happen largely because VET is expensive. The study recommended that financing of vocational and technical education has become a joint endeavour of zonal agencies, the state and the federal government. Moreover, this joint funding endeavour must continue to provide the needed occupational training. The study observes that if the states are serious about meeting the population and human resource needs of their communities, increased emphasis must be placed on vocational and technical education through direct funding.

In supporting Osuala’s findings’ Kayoma (2009:41) observed that vocational and technical education undoubtedly is quite expensive hence the need for private stakeholders and non-government organisations (NGOs) to work in conjunction with the state and federal governments. They could jointly fund the programme adequately so that functional laboratories, implements and tools are provided to students. These provides for the necessary practical experience required in the training of vocational and technical education for national development.

Studies carried out in the Caribbean countries by (ILO, 2001:6-8) on “Modernisation in vocational education and training in the Latin American and the Caribbean Region” observe that characteristics of economic activities and new social needs bring training to the fore owing to its capacity to include people, mobilise knowledge, create better conditions for employability and facilitate options for social dialogue.
However, the greater complexity of current circumstances has also exerted more strenuous efforts from training bodies to keep updated and offer services in accordance with demands. The study concurs that this has to do with frequent modernisation attempts undertaken by training institutes, or imposed upon them by circumstances. The study points out that gradual incorporation of new actors to the training supply, the availability of a mix of financing sources and the necessary relevance expected of training programmes are some of the factors that have led to the modernisation and transformation of VET institutions. Thus, methods of transformation and adaptation to change are nowadays priority items on the agenda of VET institutions.

Besides, these studies observed that the users of training outcomes want to know about the best offers, especially those ensuring the greatest efficiency since both employers and workers are looking for signs of efficiency. On the same note, financing providers are also interested in the best possible use of the funds they invest in training because well managed institutes give them a social assurance of efficient public spending. These studies agree that funds from the private sector must go to bodies accountable for relevant, effective and efficient training procedures. This left a literature gap that needed to be filled on existence of private financiers of VET institutions especially in the MIEMCK, and how well these institutions put funds in appropriate training so as to satisfy vocational needs of employers.

2.7 Vocational Training Tools and Equipment

A study by Moja (2000:39) in Nigeria show that a shortage of space existed in all the sub-sectors of the educational system. The expansion of the education system, mainly through the introduction of universal primary education, had put pressure on education facilities that did not expand at the same rate as the school population. Thus, the existing buildings were in a
state of decay due to lack of maintenance and repair in many vocational training centres. These studies documented that the poor conditions of buildings impacted negatively on the quality of education offered. Such conditions had encouraged a brain drain of teaching and administrative personnel out of education to other sectors of the economy or out of the country. Additionally, these studies lamented that dilapidated school facilities contribute to high dropout of learners from school. The amount of funding needed for new buildings was high and the estimated cost of the rehabilitation of the existing infrastructure was even higher. The researcher recommended provision of adequate education facilities at all levels of education as urgent.

On the funding mechanisms Moja (2000) documented that government funding of education was inadequate. However, the funding of education was shared among different levels of government and supplemented by funds from other sources such as business, community organisations, and levies charged to parents. The revenue collected through fees constituted an insignificant proportion of the total revenue of the institutions. The researcher pointed out that inadequate funding of education has been one of the most significant causes of the low quality of education offered at all levels, especially vocational education due to the nature of expensive equipment. Thus, funding allocations had been poorly done during the previous decades. Overall, there has been a drop in the funding levels of education. These studies argued that financial efficiency is critical and can be attained through the improvement of administrative and management practices, rationalisation, much better and more realistic planning.

A study by Akyeampong (2002:31) on Vocationalisation Education in Ghana revealed that all schools depend on grants from government to run their programmes. But the grants are
not determined on the basis of recurrent cost estimates of programmes in a school. The grants reflect size of student enrolment and other efficiency properties such as average salary of a teacher, and average teaching load among other parameters in a Sub County. These studies observe that heads of institutions have to use their own discretion in allocating funds to the various departments to cater for their specific needs. Thus, the researcher found out that vocational and technical subjects may or may not receive the level of financing required for maintenance, repairs, and consumables for practical work. Hence, these studies concluded that the possibility of wide disparities in the allocation of funds for the different programmes within and between schools was likely to occur. Further, Akyeampong (2002:41) observes that funds for capital projects in technical schools come from the central government of Ghana or from donor agencies/non-governmental organisations that channeled funds through the Ministry of Education. Data on estimated capital development cost on building and estimated capital expenditure on equipment were obtained from school bursars who by virtue of their work were conversant with some estimated costs of capital projects in their schools. The study findings within technical schools indicated that whilst some efforts were made to expand facilities such as classrooms and boarding houses, no effort was made to provide staff accommodation or improve the infrastructure and equipment and materials supply for vocational and technical programmes. Furthermore, these studies found out that fees paid by parents constituted an essential component of the funds schools needed to run the various programs. The total recurrent costs therefore, were made up of what the state provided to cater for tuition, school equipment and non-teacher costs and what students paid.

According to Ma’aji (2004:23) in a study on status of vocational education in Kaduna State of Nigeria, workshops and laboratories in vocational institutions were lacking and therefore
the impetus of direct teaching were not there either. Thus, the findings concluded that the principles necessary for effective vocational education were not followed in Kaduna state; that is, provision of relevant training facilities and equipment for adequate acquisition of skills and knowledge by trainees. Further, Ma’aji (2004) observed that education in Kaduna State had suffered many years of inadequate funding leading to teaching situation where facilities and motivation for innovation processes in vocational education at secondary school level were lacking. In effect, these practices have seriously threatened the stability and technical education credibility.

Lack of adequate teaching and training facilities hinders adequate instructional delivery (Ma’aji 2004:25). Thus, these studies lamented that many students leave school ill prepared for the challenges of the world of work and adulthood, unready and unmotivated to carry on learning throughout their lives. Thus, teaching of vocational technical subjects theoretically has deteriorated the need to develop better evaluation and teaching systems in order to prepare the adolescents for the challenge of work. However, these studies fell short of investigating other viable sources of income that could be used to supplement both current and recurrent budgets so as to enhance adequate training practices, hence the knowledge gap in literature which the current study sought to address.

**Summary**

The reviewed literature made considerable contributions to the area of vocational education and instructions preparedness among VET institutions in both developed and least developing countries. These studies elaborated on instructor related factors that are relevant in adequate instructional delivery mechanisms. However, the extent to which VET
institutions are applying information communication technology (ICT) by instructors as tool for instructional delivery formed a literature gap that needed to be filled. In their studies, Kuşkaya-Mumcu and Koçak-Usluel, (2004) investigated computer use among VET instructors in which they found out that computer usage of instructors declined with instructor’s age as years of experience increased. In terms of gender, the study documented that male instructors use computers more than females. Six years later, another study by Kuşkaya-Mumcu and Koçak-Usluel, (2010) investigated the ICT usage purposes of Turkish VET school instructors. They found out that instructors used ICT most frequently for managerial purposes, and least for instructional purposes. They also indicated that instructors’ use of ICT for in-class activities was less frequent than their use of it for out-class activities. In terms of age, while the age of instructors increased, their use of ICT for instructional, managerial and personal purposes decreased.

On the whole these studies dwelt with the aspect of ICT usage by instructors ignoring the trainees’ aspects. Trainees are the recipients of the instructions given by the instructors and that their perceptions on ICT usage within and without the classroom are important for adequate VET instructional delivery. Thus, it was found important to document perceptions of both instructors and trainees on the usage of ICT as a tool for VET instructional delivery and in-class and out-side classroom activities so as to close the huge literature gap that existed.

Secondly, the reviewed studies documented that in the Philippines public funds from central and local government and official development assistance constituted 46% of TVET expenditures. Companies fund apprenticeship programmes or give allowances to students within the dual system, while non-governmental organisations run short community-based
courses and foundations sponsor training institutions. Altogether, private suppliers constitute 22 per cent of total TVET expenditures. Student fees in both private and public institutions represent 29 per cent of total TVET expenditure, and TVET institutions generate 3 per cent of their incomes (Atchoarena, et al. 2008:145). These studies left a gap in literature in that they have not documented viable options and viable projects which VET institutions could employ to generate incomes to supplement available financial resources, especially in least developing countries. Moreover, there could be other financing mechanisms that individual VET institutions employ to generate some income to supplement their annual budgets. Besides, these studies did not document what happens in cases where a sponsoring company pulled out of the market while supporting running apprenticeship programmes in VET institutions, hence the need for this study.

Thirdly, Salling, (2006b) claims unequivocal request for behavioural skills, also called “soft skills,” by firms. These include cooperative skills, communication, work ethic, entrepreneurship, and commitment. Results of several surveys of private employers highlight the extent to which they desire these skills. For instance, in St. Kitts and Nevis, firms’ top three desired skills were attitude to work, team spirit and cooperation skills. In another survey of employers for the wider Caribbean, honesty and integrity, work ethics and problem solving were the top skills required to obtain a job (CFD, 2006). Paradoxically, young students and workers are unaware of this high demand for life skills. In a survey of school leavers in St. Vincent and the Grenadines, only 30 percent of the youth reported that they lacked soft and interpersonal skills. The lack of recognition of the importance of “life skills” in the Eastern Caribbean is not unique (World Bank, 2007:18). However, these studies failed to carry out a comprehensive study seeking opinions of trainees, instructors and management
of VET institutions as implementers of the life skills curriculum. By carrying out the current study and involving the life skills curriculum implementers brought out necessary salient requirements for life skills curriculum instruction methodologies. This also brought out strengths and weaknesses encountered when implementing such a curriculum among VET institutions. This is one of the study gaps that the current study sought to fulfill in VET curriculum implementation in YPs in the MIEMCK.

Fourthly, findings by Kayoma, (2009) recommended that vocational and technical education is quite expensive hence the need for private stakeholders and non-government organisations (NGOs) in conjunction with the state and federal government to fund the programme adequately so that functional laboratories, implements and tools are provided to students. This formed a case for inquiry on how YPs were funded to build training facilities such as workshops, classrooms, tools and equipment, desks among others.

Fifth, ILO (2001) found out that institutional services greater potential lies in the processes of strengthening the up-to-datedness, relevance and quality of the training itself. The dovetailing in an appropriate environment of training and education, labour and technology, enables mechanisms to be structured by means of which there is an acquirement of, besides solid technical and technological knowledge, the values, habits and behaviour inherent to the competences which present historical circumstances required of workers, technicians and professionals. Besides, Moja (2000) documented that the poor conditions of buildings impacted negatively on the quality of education offered, and that dilapidated school facilities contribute to high dropout of learners from school. Therefore, this study sought instructional methodologies used by YPs instructors in giving instructions and status of existing facilities.
Finally, in terms of methodology, the present study used survey design while employing explanatory techniques in collecting data about instructional delivery among YPs on the basis of comparative analysis. However, the sampling procedures of VET institutions and trainees of the above studies partly benefited the present study. While reviewed studies provided baseline information about VET through ordinary surveys, this study carried out a comparative survey study employing explanatory approach between privately owned and government supported YPs about utilisation of VET resources that parents and communities provided. This gave a more in-depth data for instructional policy considerations which were scarcely provided by reviewed literature. Such practices included instructors’ supervision and guidance of trainees, distribution and sharing of available training resources and consultations between VET institutions and local industry. These would help in discerning any disparities in both government and public allocations and subsidies to youth polytechnics in MIEMCK which mere surveys would not provide.
CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction
This chapter focuses on the methodology of the study. The chapter discusses in details the methodological orientations and design of the study, study locale, sampling procedures, sample size and research instrument that were used by the study during field work. Finally, methods of data collection, data analysis procedures and research ethical considerations as well as human relations are discussed.

3.2 Research Design and Locale
This study adopted survey research design using explanatory approach which lies within qualitative research methods paradigm in establishing instructional needs that influenced relevance of vocational training among sampled YPs in counties of Isiolo, Meru, Embu and Machakos in Kenya. Therefore, a survey research design was found appropriate for the current study because it assisted the researcher to detail systematically the situations, problems, events and programmes prevailing about vocational training needs among sampled YPs. Furthermore, this study design enabled gathering information about vocational training conditions and documented attitudes of instructors, trainees and parents towards vocational training as a career.

This design was used to gather data on the availability and the effectiveness use of the existing training facilities at sampled YPs in order to enhance vet skills acquisition by trainees. The use of survey research design was appropriate in this study because it provided ground for accessing accurate data from respondents and explaining them (Kerlinger, 1978).
This research design was used to explore the status of existing training facilities, training environment and training personnel at sampled YPs. Information concerning the existing workshops, classrooms, vet training tools and equipment, consumable materials, training manuals and teaching personnel was collected. Information was gathered to bring to the surface conditions and practices at YPs that enabled this study make comparisons of existing status with the documented training practices by the parent ministry in charge of YP training and make recommendations from future improvements. It also enabled the research explore extensively on ways instructors were engaging information technologies in giving instructions to trainees. In this regard Cohen and Manion (1995) observed that the intention of a survey is to get data at a particular time and use it to describe the nature of existing conditions. This research design was useful in providing both qualitative and quantitative data from the sample. This took cognizance of economy of design rapid data collection and ability to understand population from part of it. This was suitable for intensive and extensive research (Robson, 2002).

Moreover, the current study was alive to the fact that survey studies suffer general scientific validity limitations like other qualitative methods centering on their low levels of objectivity that limit generalisation of data obtained (Wellington, 2000 and Makatiani, 2008). However, the study guarded against this weakness by using methodological triangulation of data collection instruments and used a variety of data sources including trainees, instructors, managers, parents, Board of Management (BOM), sub-county youth training officers (SCYTO) and Director Youth Training (DYT) involved in YP affairs. This methodology was complemented by checking the interpretation of data obtained with principal supervisors who are experts in vocational education. Further, the researcher employed simple quantitative
statistical analytical tools like frequencies and percentages which greatly enhanced the credibility of the study findings.

Hence, the study evaluated the YPs instructional delivery mechanisms as a process and not as a final product. The study perceived that, the process begins by satisfying trainee’s vocational training needs at the institutional level in form of situations that motivate or discourage individual trainees’ ability to invest in vocational education. This need featured in the conceptual framework (Figure 1.1 discussed in chapter one) as influencing the trainees’ acquisition of vocational skills and knowledge. Understanding under what socio-economic environments and what processes YPs vocational training adequacy was attained or not attained required researching procedures that enabled YP second year trainees, instructors, BOM, YP managers, parents, SCYTO and DYT give an account of their own realities on the ground.

Finally, as has been argued in chapter two of this study, past studies analysing vocational training education mechanisms in Kenya, Nigeria, Ghana and in the Caribbean States had been ordinary surveys employing questionnaires only, and even where small scale studies were done, there were generalisations to some extent. For this reason, there had been assumptions that YP vocational training needs were uniform and were motivated by same factors throughout. The true position is that the methods employed did not present a vivid account of the dynamics that determined vocational education training needs at MIEMCK. Therefore, this required a comparative and explanatory analysis of prevailing circumstances under which vocational training practices were carried out at individual YPs. Survey research design was adopted using explanatory techniques to carry out intensive investigations of vocational training issues based on different and isolated YPs located in diverse
communities. This helped fill in the existing knowledge gaps in vocational training needs as discussed in chapter two.

This study was carried out in YPs in Isiolo, Meru, Embu and Machakos Counties in Kenya. The study site included YPs where instructional needs for pre-service training in vocational education were investigated. The choice of location was based on the following reasons. First, MIEMCK had not been spared the spate of poor vocational training alongside some YPs being on and off due to lack of student trainees. According to a survey about YPs vocational training in Kenya carried out by MoYAS in 2012, majority of YPs covering these counties were under enrolled, with poor training workshops or none. Others were perceived to have been on and off or closed down completely. This is an indicator of under enrollment characteristics among YPs.

Secondly, Kenyan Economic Survey RoK, (2008:76) observed that Eastern Province (consisting of Marsabit, Isiolo, Meru, Tharaka-Nithi, Embu, Machakos, Kitui and Makueni Counties by 2010) of Kenya by then was ranked third last among the 8 provinces of Kenya. This was in the category of vocationally trained persons engaged in informal sector employment by province with an index of 687.7 despite being the second most populous province in Kenya. It was ranked ahead of North Eastern (index 35.5) and Western (index 541.7) provinces in informal sector employment. This indicated low levels of job creation in the informal sector within the province by then which is largely attributed to slow economic growth and by extension poor levels of vocational training. YPs being majority of vocational training institutions, besides other vocational training institutions are perceived to produce majority of persons equipped with vocational skills and knowledge in readiness to be absorbed into the informal sector of employment. However, Eastern Province did not do well
in this particular area compared to other provinces as explained by Economic Survey in Kenya of 2008. It is within this background that Isiolo, Meru, Embu and Machakos counties were sampled as a research locale for this study with the aim of examining how YPs were coping with the training of vocational skills and knowledge acquisition in preparing youths to be versatile at the ground level.

Moreover, RoK (2008:76) avers that these counties are vastly rural, enjoying agriculture as the dominant economic activity with cash crop farming such as coffee, tea, pyrethrum and animal rearing around high altitudes of Meru, Tharaka-Nithi and Embu counties. Additionally, people practice subsistence farming in maize, beans, cassava among others. Livestock keeping (cattle, goat, sheep and camel) dominate semi-arid lands in Mbeere, Tharaka, Machakos, Kitui, Makueni, Mwingi, Isiolo, Marsabit and Moyale. The region has pockets of both high and low population densities that match the geographical climatic patterns of high and low rainfall patterns respectively.

The agricultural potential farming zones have residents enjoying permanent residential homes, while residents in semi-arid lands of Isiolo, Marsabit and Moyale practice nomadic way of life. Both patterns of residence have significant effect on the quality of vocational education and training being provided in YPs in that trainees enjoying permanent residence have good chances of attending to training as opposed to those from transhumance families, who some time boycott training and go with livestock to look for pastures. Besides, prevailing socio-economic factors in these regions determine the ability of community members to meet vocational schooling expenses. However, this ability differs from one household to another and across broad categories of people in these areas.
The sketch map shows the geographical study location of targeted YP institutions in Isiolo, Meru, Embu and Machakos Counties in Kenya.

Figure 3.1: Map of Kenya showing geographical locations of the 12 sampled YPs in MIEMCK

Source: Kenyatta University Geography Department, 2012.
Those living in rich agricultural lands have rich economic base which they should supposedly invest in areas such as vocational education of their children and have positive motivation to support YPs. Furthermore, even when communities and parents are economically able, their motivations to finance education are determined by perceived relevance of school to their daily existence and the aspirations they have for their children. However, the choice of both sets of Counties that are economically well endowed and those from arid and semi-arid lands which are economically weak fitted well into the above dichotomy albeit in a representative way. Meru County represents the first category while Isiolo and Machakos Counties represent the latter category. This study limited itself to both government supported YPs and privately run YPs in the region because they share common characteristics such as studying same curriculum and doing the same national examinations (NITA) leading to GTT certificate. Besides, they are governed by similar vocational training regulations of vocational education and training in Kenya. Furthermore, both sets of YPs draw their trainees from local primary school and form four leavers.

3.2.1 Composition of youth polytechnics (YP) for field inquiry
At the time of starting the field inquiry in January 2013 there were 50 YPs (14 private and 36 government supported) approved by and registered with MoYAS in Meru, Isiolo, Embu and Machakos Counties in Kenya (Annex IV:-A). The distribution of these YP institutions by geographical location was as shown in Figure 3.1. However, not all the 50 YP institutions are named in the Figure because some sub counties have more than one. These are post- primary institutions of education established within the Kenyan system of education and training designed to offer vocational training. This study was focused on YP institutions offering 2 years vocational courses leading to GTT III certificate.
3.3 Study Population

The study target population comprised the following informant resource persons: YP managers, instructors, trainees, parents, board of management (BOM), and Sub County Youth Training Officers (SCYTO) and Director of Youth Training stationed at Embu headquarters. Each of these had different roles in fulfilling instructional needs for pre-service training in YP’s vocational education in the 50 YPs. These informants were critical to the investigation. They provided most of the insightful, analytical and specialised information from which the study based its findings, recommendations and conclusions. Thus, the specifications of the YP institutions were 36 and 14 government sponsored and private owned respectively. During the time of field inquiry the population of trainees was 1826 distributed as 802 (387 females and 415 males) and 1024 (448 females and 576 males) first and second years respectively. This translated to average of 36 trainees per YP (MoYAS, 2012). Thus, this criterion suited the specifications of the population to which the inquiry was addressed which affected decisions that the researcher made about sampling and resources (Cohen and Manion, 1995:82). The 50 YPs in Table 3.1 were restricted to districts existing by 2004 (currently sub counties) because it was assumed some of the newly created sub counties had not taken off; and even if some had taken off they had no structures and officers on the ground targeted by the study.

<table>
<thead>
<tr>
<th>S/No</th>
<th>Sub county (districts existing by 2004)</th>
<th>Number of registered YP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Isiolo</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Meru central</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>Nyambene</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>Embu</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Mbeere</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Machakos</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>

3.4 Sampling Procedure and Sample Size Determination

In order for the study to attain appropriate resource persons from the target population, the researcher obtained specific samples so as to respond appropriately to research.

3.4.1 Composition of informants

Composition of study population included managers, instructors, and trainees; parents, BOMs, SCYTOs and DYT resource person informants. Broken down into numbers, this population comprised:

i. 50 YP managers

ii. 156 instructors

iii. 1024 second year trainees

iv. 1024 parents of second year trainees

v. 650 Board of governors

vi. 6 SCYTOs

vii. 1 DYT

Where $N = 2911$. Ideally, the study should have included 2911 resource informant persons as follows: all the 50 managers, where the institutions are located, 156 instructors who give instructions to 1024 second year trainees who comprised 56.25% (576) males and (448) 43.75% females whose training needs were being investigated. The 1024 parents who respond to satisfaction of needs of trainees those were under investigation. Furthermore, the study would include all 650 BOM members concerned with policy formulation that relate to the needs of trainees and 6 SCYTO and the DYT who oversee policy implementation in these institutions within the MIEMCK. Since the number of this population was large and widespread, application of research instruments to each informant resource person in order to
make a comprehensive analysis of his or her responses was likely to pose administrative and financial problems. Due to factors of expense, time, and accessibility, the researcher obtained measures from a sample of the 2911 informant resource persons.

### 3.4.2 Informants sampling procedures

Since the investigation was aimed at getting a holistic and in-depth view of the process of responding to instructional needs for pre-service training of youths in YPs vocational education in the MIEMCK, informants were mainly sampled within the 50 YP institutions as key information resource persons. The qualitative nature of the study which needed an in-depth examination of rich mix of YPs’ characteristics through repeated measure of tools application explains the choice of stratified sample as well as the respondents. Thus out of a total population of 2911 identified as potential informant resource persons, the researcher used sampling to obtain 33.56% (977) of 2911 as target informants. For purposes of representativeness YPs, YP managers, instructors, BOM, SCYTO and DYT were purposively selected while second year trainees and parents were censured for participation as resource persons. The trainees and parents were censured due to small number of trainees per trade. Table 3.2 shows target informants were as follows: 12 YP managers, 48 instructors, 384 trainees, 384 parents, 144 BOM members, 4 SCYTOs and 1 DYT.

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Population</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructors</td>
<td>156</td>
<td>48</td>
</tr>
<tr>
<td>Parents</td>
<td>1024</td>
<td>384</td>
</tr>
<tr>
<td>Board of management</td>
<td>650</td>
<td>144</td>
</tr>
<tr>
<td>YP second year trainees</td>
<td>1024</td>
<td>384</td>
</tr>
<tr>
<td>YP managers</td>
<td>50</td>
<td>12</td>
</tr>
<tr>
<td>SCYTOs</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>DYT</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2911</strong></td>
<td><strong>977</strong></td>
</tr>
</tbody>
</table>

**Source:** Ministry of Youth Affairs and Sports Records, Embu (January, 2012)
3.4.3 Sampling of sub counties

Four sub counties (districts existing by 2004) in the counties of Isiolo, Meru, Embu and Machakos were purposively sampled for the current study. Neuman, (2000) asserts that purposive sampling is often used when working with small samples and when a researcher wishes to select cases that are particularly informative. In this regard, Patton (2002), in supporting Neuman, emphasises that a researcher identifies diverse characteristics of the sample selection criteria prior to selecting the sample. Further, Adams, Khan, Raeside, & White (2007:90) assert that purposive sampling is used by researchers to control characteristics such as social status in order to draw a representative sample of the population. Indeed, this region comprises of varied populations with different kinds of occupations dictated by their geographical and socio-economic areas of residence; arid, semi-arid and agricultural potential lands. Thus sub counties of Isiolo, Machakos, Mbeere and Meru Central from arid, semi-arid and agricultural potential regions respectively were purposively selected for the current study from the region as shown earlier in Table 3.1. These sub counties had residents experiencing different economic backgrounds that were likely to influence vocational training patterns in YPs. This is because parents are key stake holders in education and contribute enormously towards education of their children in terms of levies paid to YPs in form of fees and other expenses. Furthermore, these sub counties were perceived to represent YP vocational training practices that take place in arid, semi-arid and agricultural potential lands. This is because YP vocational training is tailored to satisfy the local basic vocational skills and knowledge training needs.
3.4.4 Youth polytechnic sampling procedures

Ideally the inquiry should have involved all 50 YPs approved by and registered with MoYAS as shown in annex IV:-A. However, as has been noted earlier in Figure 3.1, the number is large and widespread in the MIEMCK. Application of instruments to all of them was likely to pose administration and financial problems. Consequently, due to constrain of time, finance and access, the study purposively sampled from 50 YP institutions a sample size of 12 YPs for obtaining a measure. Thus, the study specified a small but adequate sample.

From the regional office of DYT headquarters in Embu, the researcher obtained a list of all registered public and private YPs in the sub counties of Isiolo, Meru Central, Mbeere and Machakos with their enrollments arranged in descending order. Consequently, purposive sampling technique was used in selecting 2 public YPs and a private YP from a list of registered YPs per sampled sub county as shown in Table 3.3. In this connection Adams, et al (2007:90) says that purposive sampling is used to pick unique cases that are informative. The public YPs with highest and least enrollments were purposively sampled for the study.

Hence a total of 8 public and 4 private YPs totaling to 12 YPs were sampled for the study as shown in Table 3.3. However, due to unforeseen circumstances one YP did not participate in

<table>
<thead>
<tr>
<th>Government supported YPs</th>
<th>Private YPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP</td>
<td>Sub County</td>
</tr>
<tr>
<td>Uhuru</td>
<td>Isiolo</td>
</tr>
<tr>
<td>Reuma</td>
<td></td>
</tr>
<tr>
<td>Nkubu</td>
<td>Meru Central</td>
</tr>
<tr>
<td>Gitugu</td>
<td></td>
</tr>
<tr>
<td>Siakago</td>
<td>Mbeere</td>
</tr>
<tr>
<td>Iriamurai</td>
<td></td>
</tr>
<tr>
<td>Vyulya</td>
<td>Machakos</td>
</tr>
<tr>
<td>Kyemutheke</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

*Source: Table 3.1*
the study because it had closed down due to tribal clashes. On the same strength, purposive sampling was used to sample one private YP with the highest enrollment from each of the 4 sampled Sub Counties. All the sampled YPs had graduated at least three cohorts of trainees with GTT III certificate. These institutions were perceived to have established a training culture. Furthermore, the institutional cultures and practices such as amount of fees paid, training experiences, availability of instructing materials and type of training environment among other training needs differed significantly in the two sets of YPs. This had a bearing on the amount of fees charged and nature of vocational training provided as governed by different regulations in government and private YPs.

3.4.5 Sampling of second year trainees

The researcher employed census technique in picking YP trainees to participate in the study. Censuring second year trainees was informed by the fact that YPs trainees’ enrollments were poor and some course registered few trainees. However, YPs doing well had classes enrolling almost 20 trainees. Thus, 1024 second year trainees spread over three trades in 50 YPs translates to an average of 7 trainees per trade. A specification of class size requirement of number of trainees per course by MoYAS is 20 trainees per class (MoYAS, 2012). Only second year trainees in the courses of masonry, carpentry/joinery and tailoring from each sampled YP were censured for the study. This is because a second year trainee stood a good position to provide summative opinions on their perceptions about their course of training. In this regard Saunders, Lewis and Thornhill (2003:210) assert that census is applicable to small populations and it provides a useful resource with which to compare one’s own research findings; and that census involves everybody targeted by the study to volunteer information. Therefore, from each sampled YP the average target trainees were 11 per trade totaling to 33
informants for the 3 selected trades. Hence a total of 384 trainees were censured from a target population of 1024 trainees.

3.4.6 Sampling of YP instructors and managers

Managers of sampled YPs were automatically included in the study because they doubled as instructors and were in charge of day-to-day running of the institutions. Hence, all 12 managers of the sampled YPs out of a target of 50 managers of YP from sampled Sub Counties were selected for the study. However, 1 manager did not participate in the study since his YP had closed down as noted earlier. The study perceived the roles played by YP managers and instructors as very important. Therefore, their opinions about adequacy of vocational instructions about training tools, equipment, financing, recruitment of trainees, instructional methodologies and future of vocational training at YPs were taken into account.

Secondly, the study automatically involved all trade instructors instructing sampled second year trainees in the trades of masonry, carpentry/joinery and tailoring in the selected 12 YPs. Therefore, from a target population of 156 instructors a total of 48 instructors were purposively sampled for the study. However, care was taken to include departmental heads of trades in the study through purposive sampling. This is because a trade departmental head coordinates all the training activities in a department and is the custodian of the department’s vocational training records.

3.4.7 Sampling of YP parents and BOM members

The Board of management (BOM) and parents were perceived important respondents in the study because they are charged with the responsibility of streamlining financial management, undertaking physical expansion and maintenance of: programmes, institutions traditions and standards of vocational training and discipline of the YP institution. For purposes of
consistency in data collection, the researcher obtained the names of parents/guardians of censured second year trainees in the trades of masonry, carpentry /joinery and tailoring in each sampled YP from the manager’s office. Therefore, through census the study enjoined 384 parents to participate in the study. However, due to unforeseen circumstances, not all sampled parents turned up for focus group discussions as shown in annex IV:-B.

The BOM members were selected purposively in order to include as many as possible in the study. First, the researcher obtained a list of all 13 bonafide members of BOM in each sampled YP from the YP manager’s office. The name of BOM secretary (YP manager) was omitted from the list because the researcher perceived that presence of a secretary of BOM as the chief executive officer in a focus group discussion would have had some psychological effects on members who would shy off from discussing some critical issues touching on running of YP. Moreover, the BOM secretary doubles as the YP manager and was interviewed in another forum as the in-charge of YP. Therefore all the remaining 12 BOM members from 12 YPs totaling to 144 were purposively sampled to participate in the entire study as shown earlier in Table 3.2. However, those who showed up for focus group discussions are as shown in annex IV:-B.

3.4.8 Sampling of sub county youth training officers and director youth training

The DYT in charge of YPs in MIEMCK was purposively sampled for the study because he oversees government policy implementations within the region and provides feedback to the parent ministry. The 4 SCYTOs of the sampled sub counties of Isiolo, Meru Central, Mbeere and Machakos were automatically included in the study because they oversee policy implementations of VET in YPs within their administrative areas. This category of informants was found useful in this study because they are the custodians of data on YP’s: government
policies, staffing status, curriculum implementation issues, and financing matters. Finally, the researcher perceived that these respondents were in-charge and approved development projects initiated in respective YPs. Therefore, their views were sought and incorporated into the current study.

3.5 Instruments for Data Collection

The study triangulated different instruments which entailed the use of more than two instruments in data collection. According to Saunders, et al (2003:117) triangulation of study instruments in a study ensures that the data are telling the researcher what he thinks they are telling him in that each study instrument has its unique strengths and weaknesses. Thus a true picture of the social phenomena of YP vocational instructional needs could not be presented by a single method but by relying on a variety of instruments that would enrich the depth and accuracy of data collected. The five key instruments used in data collection were: questionnaire, interview schedules, schedules for document analysis and statistical data, focus group discussions and checklists as discussed below.

3.5.1 Interview schedules

One major advantage of an interview is that it allows for greater depth of data collection and has a higher response rate because respondents are more involved and motivated and understand more about research problems than usually explained in a covering letter. This research tool makes a move away from seeing human being respondents as simply manipulative; and data as somehow external to individuals and towards regarding knowledge as generated between humans, often through conversations (Cohen and Manion, 1995). Besides Walker, (1985:91) asserts that interviews rely on the assumption that people account for their behaviour, practices and actions to those who ask them questions. Thus,
interviews enabled the researcher to obtain more information and clarified vague statements especially when addressing variables of the study. The data generated were recorded descriptively as per relevant study themes of instructional implementation at YPs. Hence, interview schedules enabled participants to discuss their interpretations of the world in which they lived and to express how they regarded situations from their own point of views. This study employed two sets of interview schedules conducted by the researcher. These were:

3.5.1.1 Interview schedule for YP managers and instructors
The first in-depth interview schedule was administered to YP managers and instructors instructing second year trainees in the trades of masonry, tailoring and carpentry/joinery who were the key informants to these instruments. The YP instructor’s and manager’s interview schedule addressed trainees training needs that occurred within the YP on day-to-day basis. The interviewees had separate in-depth interviews with the researcher on the whole practice of YP vocational training at different times. The researcher first had in-depth interview with sampled instructors for about an hour and later held similar interviews with the YP manager. The subject matter of discussion centred on the following aspects: teaching curriculum, training processes, adequacy of training facilities and tools in preparation for GTT III examinations as recommended by NITA examining body. The instrument further addressed staff profiles, trainees’ academic qualifications and their impacts on training activities undertaken within the term and their views on staff motivation. The YP instructor’s and manager’s interview schedules are annex I:-A, and annex I:-B respectively.
3.5.1.2 Interview schedule for SCYTOs and DYT

The second set of in-depth interview schedules were administered to respective SCYTOs (currently sub-county youth training officer SCYTO) of each sampled Sub County and finally administered to DYT. Being at the helm of vocational skills training, coordinating and receiving information pertaining to vocational skills training in all YPs within their administrative areas these informants provided summative opinions on instructional needs in the trades of carpentry/joinery, masonry and tailoring in relation to ministry policy requirements.

First the interview focused on training difficulties experienced by both trainees and instructors, and how they went about addressing such challenges. Besides the instrument explored types of in-service courses offered to YP instructors, workshops and seminars they attended, and policy requirements on YP vocational instructional needs for instructors and trainees.

Secondly, the set of instruments determined the adequacy of YP’s vocational training and learning material and equipment. Thirdly, adequacies of instructing methodologies used by instructors in implementing the vocational curriculum were sought. Finally the instrument was used to tap views of the interviewees on marketability and relevance of various trades offered in YPs in relation to local community needs. Thus, the information collected from DYT was used to supplement the views obtained from SCYTO, YP managers, instructors, trainees, parents and BOM informant resource persons. The in-depth interview guide for SCYTO and DYT was as shown in annexes I:-C and I:-D respectively.
3.5.2 Youth polytechnics’ second year trainees questionnaire

Trainee’s questionnaire (annex I:-E) was administered to all sampled second year trainees in the trades of masonry, carpentry/joinery and tailoring. According to Robson, (2002) questionnaires work best with standardised questions that one can be confident will be interpreted the same way by all respondents. For flexibility purposes, this instrument was designed using both closed-ended and open-ended questions because of its strength to preserve the possibility of easy computation whilst providing respondents with the space to develop their own ideas. The instrument ascertained from trainees the availability and unavailability of requisite training tools, consumable materials, and challenges they encountered during practice and theory lessons, their entry behaviour and career prospects, their view on attachment matters and how they perceived vocational training in their trades to the acquisition of vocational knowledge and skills.

The questionnaires were administered in a classroom or workshop setting to sampled trainees at different times when the researcher visited each sampled YP. In this regard, the researcher made prior arrangements by first communicating to the respective YP manager and the respective trade instructors two days prior to the day of field inquiry. This gave trainee informants time to prepare themselves for the inquiries.

Because of the number of trades involved (carpentry/joinery, masonry and tailoring) and high number of trainee respondents, the researcher engaged services of two research assistants in administering trainees’ questionnaire so as to adequately manage the whole process within required time limits. The research assistants had been trained in advance on procedures for administering the trainees’ questionnaires. This was done to ensure high percentage of questionnaire return rates. The research assistants were briefed to ensure that respondents
were not hurried in completing the questionnaire but allow them adequate time to write their responses. Besides, the research assistants moved out of the room immediately after distributing the questionnaires in order to avoid inducing an examination atmosphere which most trainees are uncomfortable with.

3.5.3 Checklists for tools, training manuals, equipment, workshops and classrooms

A check list schedule (annexing I:-F) was developed to help document the availability or none availability of vocational training resources and facilities as requirements by NITA curriculum. These checklists were completed by the two research assistants with the help of respective trade instructors. A check list in research provides rich, objective and relatively accurate descriptive data on a situation as it exists in a research setting (Williamson, Karp, Dalphin and Gray, 1982). These are direct observations that consisted of listed items present that were relevant to vocational training and acquisition of a particular vocational skill. The checklists contained specific items that were mostly used in respective trades sampled for the study. These items included YP institutional physical conditions such as status of existing buildings, classrooms and workshops learning environment. The availability of training and teaching facilities (desks, Tables, seats, and blackboards); availability of workshop material for sewing machines, artificial incubators, spraying cans, planes, training manuals, and consumable materials like sand, manure, fertilizer, clothes, nails, and adhesive among others. Availability of workshop inventory records, servicing of equipment and tools were ascertained. The respective checklists for each trade were compared against NITA curriculum requirements on vocational training tools, equipment and workshop practices. Besides, information on trainees’ enrolment, and examination performance were sought.
3.5.4 BOM and parents focus group discussions

The researcher organised 11 natural groups (Annex IV:-B) for focus group discussions (FGD) (annex I:-G) varying from 10 to 12 sampled BOM and parents members for each trade of masonry, carpentry/joinery and tailoring. With the assistance of a manager of each sampled YP the researcher obtained a list of sampled parents whose trainees were sampled for the study. The researcher, with assistance of two research assistants recording FGD proceedings, moderated each trade’s FGD at appointed time on a working day in each sampled YP. This was found useful because each trade had unique training specifications and materials due to sensitivity of skills and competences required of trainees. These discussions elicited and clarified information that was not clarified in the questionnaires and interview schedules. According to Saunders et al. (2009) FGD have a more specific purpose and links to the explanation of a known theme/topic. They were used by the researcher to test discussants’ reactions to particular policies and vocational training needs practices inherent at YPs.

The FGD centred on methods and means used to raise funds to run YP programmes, parents and BOM member’s perception on expenses parents incurred in meeting their children’s vocational training requirements, type of support parents gave to YPs and factors that encouraged or discouraged their support to YPs. Besides, parents’ opinions on whether the community had believed in the purpose and functions of the YPs were sought. Finally the informants were asked to suggest appropriate strategies that would help improve instructional delivery mechanisms in their youth polytechnics.
3.5.5 Schedule for document analysis and statistical data

Schedule for document analysis and statistical data were used to generate information from YP managers, BOM, parents, SCYTOs and DYT. Since a great deal of interaction between parents, YP institution and community members was in written form, the researcher used schedule for document analysis to clarify such interactions. Such records included YP BOM and parents minutes, daily training and instructional records and data of important institutional events. According to Weber (1985) content analysis can help a researcher learn more about the programmes they are investigating and their issues. This is because content analysis is systematic in nature, and its task of devising reliable and useful categories is rigorous.

The researcher, with the help of respective YP managers and enlisted research assistants, analysed available specific course materials as outlined in a trade’s inventory records and their suitability as required by vocation’s trade syllabi. These included KIE and NITA syllabi trade guidelines, training equipment, training manuals, instructors’ curriculum vitae, trainees’ main texts and reference text books. Further, the instrument analysed practical guides, internal and external examination papers, industrial attachment log books and other accompaniments used to carry out instructions. The instrument also analysed fees policy documents, minutes of parents meeting, YP correspondences with NITA examinations council, trainees’ academic entry qualifications as well as end term internal examination results so as to ascertain their relevance and focus in providing a trainee with adequate vocational skills and knowledge. This was annexing I.-H.
3.6 Piloting Study

Pre-testing of the research instruments was done prior to conducting the study for the purposes of enhancing its validity and reliability. Orodho (2004:40) points out that ‘piloting is important because vague questions are identified in the sense that the respondents interpret them differently. In such a case, the researcher rephrased vague questions until they conveyed the same meaning to all the subjects. Trialing of managers’/instructors’ interview schedules and trainees’ questionnaire were conducted at Muthara YP that was not participating in the current study. Six second year trainees each in the courses of masonry, carpentry/joinery and tailoring were systematically sampled and took part in the questionnaire’s piloting exercise. Similarly all the instructors instructing the sampled courses were engaged in trailing of the interview schedule for instructors. Specifically, the pilot study addressed challenges such as whether:

i. The instruments adequately generated the required information.

ii. The instruments contained proper wording of questions.

iii. The question items were logically arranged to facilitate responses.

iv. There were any redundancies and repetitions that could call for eliminations of some questions.

v. Questions prepared were acceptable to informants.

vi. There were adequate amounts of time needed to administer respective research instruments.

The instruments were tested to help facilitate obtaining relevant information to specific research questions. This assisted the researcher to clarify areas of ambiguity in the instruments because vague questions were interpreted differently by respondents. The trainee
respondents filled a self-completion questionnaire and at the end wrote brief comments and suggestions on what was to be removed or included from the questionnaire. The researcher then listed all responses obtained during piloting for the purposes of cross-checking item by item and documented relevant recommendations.

Similarly, the researcher engaged the instructor informants at the end of the interview in discussing the respective instruments with a view of listing areas of weakness for further improvements. Thereafter the researcher scrutinised the questionnaires and interview schedules to identify problem areas and later discussed them with the principal supervisors for purposes of rectifying the instruments.

3.6.1 Validity of research instruments

Validity is the degree to which the empirical measure or several measures of the concept, accurately measures the concept Orodho (2004:41). Furthermore Robson, (1996:60) asserts that validity is concerned with whether the findings are really about what they appear to be. Moreover, the content validity of research instruments is arrived at through expert judgement. Experts help determine content validity by defining in precise terms the domain of specific content that the test is assumed to represent and then determine how well that content universe is sampled by the test items (Gall, et al. 1996).

Therefore, for the purpose of verifying the validity of interview schedules, document analysis, observation schedule, questionnaire, and Checklists for tools, training manuals, equipment, workshops and classrooms and that were used in this study the researcher worked very closely with the principal supervisors. They scrutinised through the entire instruments item per item and made suggestions where necessary in consideration of the pilot study recommendations.
and certified them. Further, the researcher sought views of both fellow scholars as well as those from the school of education postgraduate studies community of Kenyatta University in an attempt to attain adequacy of the study instruments. Thus, their views were incorporated in the final instruments with the advice of the principal supervisors.

3.6.2 Reliability of study instruments

The researcher focused on establishing the internal consistency of the research questionnaires by carrying out a trial of a sample on two sets of YP instructors and trainees at Muthara Youth polytechnic in Tigania East Sub County prior to actual field inquiries. This exercise was meant to achieve desired instruments threshold reliability that could permit use of the tool to collect data.

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials (Mugenda and Mugenda, 1999:95). Questionnaires were administered to 18 sampled second year trainees taking masonry, carpentry/joinery and tailoring with the assistance of trade instructors. After respondents had written their responses, the questionnaires were coded, analysed and Pearson product moment correlation (r) computed through split half method. According to Karlinger (1983:45) Pearson product moment correlation (r) tells the magnitude and usually the direction of relationship. The trainees’ questionnaires were numbered in ascending order, and then divided in two folds of odd and even numbers. Odd numbered questionnaires were marked X while even numbered questionnaires marked Y. The analysis of Pearson product moment correlation (r) of the two folds was computed using statistical packages for social sciences (SPSS) computer package. The Spearman Brown prophecy formula (Siegle, 2009) on Reliability of scores on Total Test
was applied to obtain a correlation coefficient (r) equal to 0.82. This implied the tool was reliable to net most of the sought data. For this reason, Charles (1988:167) asserts that a correlation coefficient lower than 0.7 cannot be admissible to make accurate predictions. Hence correlation coefficients r = 0.82 computed for questionnaires for the current study were above the required threshold for reliability of a study instrument.

3.7 Data Collection Procedures

After obtaining permission from National Commission for Science, Technology and Innovations (NACOSTI) formerly National Council for Science and Technology (NCST) the researcher proceeded to collect data from trainees, instructors, YP managers, parents and BOM of sampled YP institutions, SCYTO and DYT. Given the wide geographical distribution of YPs sampled for the study and the fact that the researcher had to gather data at the same time teaching at Meru University of Science and Technology (MUST), he enlisted the help of two research assistants. The researcher held several sessions with the assistants and explained to them the purpose, methods and procedures of the study. The assistants helped in the administration of demographic data sheets requiring factual information by:

a) Assisting in administering trainees’ questionnaire to trainees with close guidance from the researcher (annex I: - E).

b) Trainees’ enrolment and training tools in the trades of carpentry/joinery, masonry and tailoring with close supervision from the researcher (annex I:-F).

c) Assisting in recording down proceedings of focus group discussions with close guidance from researcher (annex I:-G).
d) Assisting in documenting relevant issues during document analysis with close guidance from the researcher (annex I:-H).

The researcher followed up this exercise for several reasons. First, he personally moderated BOM and parents focus group discussions (annex I:-G) while the research assistants recorded down the proceedings of each discussions. The informants sat in a circular setting so that the members were free to discuss on face-to-face basis. In each focus group discussion a literate parent chaired the session while the researcher moderated the discussions by way of controlling the discussions along the thematic areas of the study about YP trainees’ vocational and instructional needs. Annex IV:-B details expected and actual informants who participated in FGD in the study.

Secondly, by using the instructors’ interview schedule (annex I:-A) the researcher conducted in-depth interviews with sampled instructors in a workshop for about an hour. He later held in-depth interviews with respective YP managers in their offices in the morning guided by YP manager’s interview schedule (annex I:-B). During the field inquiry, the researcher with assistance of respective YP manager analysed relevant documents relating to YP examinations, curriculum, training manuals, minutes of parents’ meetings, trainees attachments records, instructors curriculum vitae and correspondences with DIT/NITA examination council (annex I:-H). Finally, the interviewer conducted in-depth interviews with sampled SCYTO (annex I:-C) in their respective offices at agreed time during the office working hour. Each interview schedule addressed the following concerns: training difficulties experienced by both trainees and instructors and related challenges. Types of in-service courses offered to YP instructors, workshops and seminars they attended, and policy requirements on YP vocational instructional needs for instructors and trainees were explored.
Adequacies of learning material and equipment, instructing methodologies used by instructors, marketability and relevance of various trades offered in YPs in relation to local community needs. Information on YP trainees instructional needs were gathered on the same thematic areas with SCYTO in-depth interview schedules preceding DYT interview schedule in their offices during appointed time on a working day (annex I:-C annex I:-D). This order of collecting data was found useful for purposes of clarification of issues that were not clarified at the lower levels, and more so in organising and coding data obtained from various sources.

3.8 Data Processing and Analysis

The data gathered by survey design using explanative approach was analysed both qualitatively and quantitatively. Data from questionnaires and interview schedules was analysed using SPSS software programme. First, the data was interpreted by assigning numerical values to particular responses. This was organised into relevant categories in response to research questions and translated into frequencies and percentage scores to show where particular opinions and attitudes were centred. Some of the data was translated into pie charts and histograms that described the status of vocational training parameters and practices among studied YPs. Data obtained from observation checklists was organised into pertinent themes relating to what facilities and training materials were present and those missing, the servicing of those materials and their usability during actual skills training.

Finally, data obtained from BOM and parents FGD was summarised into pertinent themes of the study objectives by first noting the frequency at which each item occurred and then interpreted by assigning numerical values to particular responses that generated statistical percentage measures relevant to specific study questions. Meanwhile data from document
analysis was classified as that dealing with institutional facilities and equipment, classroom instructions, staff establishment and remunerations as well as trainees’ academic entry qualifications and end of term examination results. This helped the researcher to synthesise this information with that obtained from the rest of the respondents responses to arrive at certain conclusions geared towards addressing vocational instructional delivery needs at YPs.

3.8.1 Logistical and ethical considerations

The current study focused on trainees, instructors, managers, BOM and parents of YPs and SCYTO and DYT. The informants consent to be involved in the study was sought before investigations commenced. Research permit was issued by NCST Nairobi Headquarters, and permission sought from Director Youth Training (DYT) offices at Embu headquarters and from respective sampled sub county youth training officers before embarking on visiting the sampled YPs. Further, the researcher sought the consent of each YP manager before contacting any of the respondents or visiting any of the premises within the institution. At the beginning of data collection in each YP all respondents were briefed on the purpose of the study beforehand and assured of confidentiality about the data they would provide. However, respondents’ views were requested on researcher-respondent relations that would probably influence future policy relations in research matters.

Conclusion

In this chapter, the rationale for survey design which the researcher adopted for investigating YP pre-service trainees instructional needs in MIEMCK are thoroughly discussed. The rationale clarifies the design of the study and the variables that were used during field inquiry. The respondents for the study were YP institutions’ instructing staff, managers, trainees, parents, and BOM as well as government officers (SCYTO and DYT) overseeing
vocational skills training policy implementation at the sub counties and MIEMCK. Research instruments for data collection were interview schedules, checklists, focus group discussions, document analysis and questionnaires. These instruments are discussed and rationalised for this study. Data collection procedures, data analysis techniques and ethical considerations that guided the study during field inquiry are thoroughly discussed.
CHAPTER FOUR
PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents the findings, interpretations and discussion of the study. The main objective of the study was to investigate into instructional needs and their use in pre-service training in YPs in Isiolo, Meru, Embu and Machakos Counties in Kenya. The study was conceived to bring out an analysis of various shortcomings encountered by the YP vocational institutions at the instructional level of skills training and development. The researcher took cognizance of the fact that YPs are mostly community-based in terms of management, training personnel and financial mobilisation with little support from the government. However, the important role YPs play in inculcating vocational skills into primary and secondary school graduates for both gainful and self-employment at rural and urban areas motivated the current study. In this respect, the study was guided by the following specific objectives:

1. To find out whether trainees, instructors as well as the community have faith in the purpose and functions of the YPs.
2. To explore in what ways curriculum implementation is carried out among youth polytechnics.
3. To find out instructors’ and trainees’ perceptions about instructional methodologies used by youth polytechnics instructors in giving instructions.
4. To examine instructors’ and trainees’ perceptions about training tools, equipment and materials at their disposal as the necessary implements towards acquisition of vocational skills and knowledge.
5. To establish trainees career prospects within their trades of specialisation after completion of a two year certificate training period.

6. Suggest appropriate strategies that would help improve instructional delivery mechanisms in youth polytechnics.

The study adopted a survey design using explanatory approach in addressing these objectives. The researcher conducted formal interviews with sub county youth training officers (SCYTOs) in the sub counties of Isiolo, Meru Central, Mbeere and Machakos and the DYT. The sampled YP instructors instructing the trades of carpentry, masonry and tailoring were involved in administering questionnaires to the sampled trainees and also participated in structured interview schedules with the researcher. The researcher conducted focus group discussions (FGD) with sampled board of management (BOM) and parents of the respective YPs. Finally, the researcher carried out document analysis at YP managers’ offices, Sub County youth training offices and Director for Youth training offices so as to ascertain some of the issues that were not clarified during the triangulation of the instruments. Moreover, document analysis was helpful in bringing out documented procedures and patterns in which vocational training practices were carried out in respective YPs. Checklists were also used in documenting information related to training facilities and resources available in YPs workshops and classrooms. First this chapter provides demographic information of informants followed by detailed discussions of responses to the study questions.

4.2 Respondents who participated in the Study

For purposes of representativeness the researcher used both purposive and census techniques to sample YP managers, instructors, parents, BOM, SCYTOs, DYT and second year trainees’ respondents in the sampled trades of masonry, carpentry/joinery and tailoring. Care was taken to
ensure both gender were equitably represented in the sample. Therefore, out of 12 sampled YP managers, the researcher interviewed 91.6% (11) managers because Reuma YP had closed down.

During interviews with Isiolo SCYTO, he observed that:

Reuma YP closed down in 2012 because of two warring clans of Turkana and Boran. However, the Sub County security committee is steering efforts to reconcile the two clans with a view to opening the YP (personal communication with SCYTO, March, 2013).

Table 4.1 : Instructors, parents and BOM members who participated in the study

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Sample</th>
<th>Those participated in the study</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructors</td>
<td>48</td>
<td>44</td>
<td>91.6</td>
</tr>
<tr>
<td>Parents</td>
<td>384</td>
<td>96</td>
<td>25.0</td>
</tr>
<tr>
<td>Board of management</td>
<td>144</td>
<td>36</td>
<td>25.0</td>
</tr>
</tbody>
</table>

**Source**: Data obtained from respondents during field inquiry, 2013.

Moreover, Table 4.1 shows that out of 48 purposively sampled instructors in 12 YPs, and 384 censured parents, the researcher worked with 91.6% (44) instructors who participated in formal interviews and 25% (96) parents participated in FGD respectively. Further, the researcher worked with 25% (36) out of 144 sampled boards of management respondents in FGD together with sampled parents in their respective YP; and interviewed 4 SCYTOs and the MIEMCK region (DYT). Further, of 384 trainees sampled for the study only 38.28% (147) tailoring, 17.96% (69) masonry and 17.70% (68) carpentry/joinery totaling to 284 trainees participated in the study with a questionnaire return rate of 73.95% as presented in Table 4.2. The high response rate to questionnaires was attributed to good rapport cultivated by the researcher among the instructors and trainees during field inquiry. Besides, the trainees were given 2 hours to write their responses and the questionnaires were collected by research assistants. This was important in providing data for analysis so as to capture a holistic picture about YP instructional delivery mechanisms in the sampled sub Counties of Isiolo, Mbeere, Meru Central and Machakos. However, of all the questionnaires distributed to trainees only three were not fully completed.
because the respondents had English language difficulties in responding to questions. Reuma YP in Isiolo closed in 2012 and therefore her trainees did not participate in the study.

<table>
<thead>
<tr>
<th>Table 4.2: Sampled YPs’ frequency table showing total number of trainees per trade who completed the questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>YP</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Don Bosco*</td>
</tr>
<tr>
<td>Iriamurai</td>
</tr>
<tr>
<td>Siakago</td>
</tr>
<tr>
<td>Vyulya</td>
</tr>
<tr>
<td>Kaanani*</td>
</tr>
<tr>
<td>Kyemutheke</td>
</tr>
<tr>
<td>Nkubu</td>
</tr>
<tr>
<td>Gitugu</td>
</tr>
<tr>
<td>Nazareth*</td>
</tr>
<tr>
<td>Uhuru</td>
</tr>
<tr>
<td>St. Joseph’s*</td>
</tr>
<tr>
<td>Reuma</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Percentage</td>
</tr>
</tbody>
</table>

N = 284 Key: * private YPs; - no trainees enrolled in a trade

Source: Data obtained from trainees during field inquiry, 2013.

Thus, Table 4.3 shows trainee respondents frequency distribution by gender per trade. Of these 42.95% (122) female and 8.80% (25) male informants totaling to 51.75% (147) were training in tailoring. This was the most popular trade among trainees. The trade of carpentry/joinery enrolled 22.88% (65) males and (3) females totaling to 23.94% (68) trainees. Besides, masonry trade enrolled 23.94% (68) males and 1 female summing up to 24.29% (69) trainees.

<table>
<thead>
<tr>
<th>Table 4.3: Trainee respondents frequency distribution by gender per trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Masonry</td>
</tr>
<tr>
<td>Tailoring</td>
</tr>
<tr>
<td>Carpentry/joinery</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

N= 284 Source: Official records of trainees’ enrolments in sampled YPs, 2012.

This is corroborated by findings by Ngumbao (2012) on ‘factors influencing youths into joining YPs in Mombasa County’. Ngumbao established that 90.5% and 90.8% of the respondents
observed that masonry and carpentry trades respectively were not suitable for female students, while 84.8% of the same informants reported tailoring as suitable for female trainees. The same studies documented that 74.5% and 63.9% of the informants said both males and females respectively had equal opportunity in accessing education, and females should not be restricted to pursue certain careers. Hence the change in gender roles has necessitated men to participate in women dominated tasks and vice versa. Such changes in gender roles are positively impacting on vocational education and training (VET) today. For example, from Table 4.3, there were few females against 23.94% (68) and 22.88% (65) males taking masonry and carpentry/joinery respectively seen as male vocations. However, Achieng (2012) in her studies lamented that majority of VET centres in Siaya had falling enrolments for the last five years. Major reasons provided by respondents were lack of school fees and poor attitude by families towards vocational training.

In conclusion, the researcher interacted with majority of sampled informants who provided a rich mix data sought by the study. These were YP: managers (91.6%), instructors (91.6%, trainees (73.95%), parents (25%), BOM (25%), SCYTO (33.3%) and the MIEMCK region youth training officer. Moreover, the study attained 73.95% questionnaire return rates from the sampled respondents. The study documented that more males than females 11.26% enrolled in sampled YPs during the year 2012. Tailoring was the most popular trade with 51.76% of sampled trainees and dominated by females 42.95% (122) against 8.8% males. Masonry and carpentry/joinery were dominated by 23.94% and 22.8% males, and in terms of popularity ranked second and third respectively. This information formed the basis for data analysis and discussions presented in this chapter.
4.3 Youth Polytechnic Trainees’ Parental Socio-Economic Background

During focus group discussions with the researcher, out of 96 parents who participated in the study some parents said they were employed by various organisations like churches, matatus (public service vehicles) welfare associations and Government of Kenya. They included church pastors, drivers, nurses, teachers and policemen totaling to 29.1% (28) respondents. The average monthly income for teachers and nurses were Ksh. 30,000, policemen Ksh. 20,000 and drivers Ksh. 4,500. This category of parents did jobs that required specialised skills and therefore were classified as skilled workers. Moreover, they enjoyed a regular monthly income. Some 53.1% (51) and 15.6% (15) of the parents engaged in peasant farming, and were business persons respectively. Only few parents reported that they did not have a specific occupation and sought work at people’s homes and farms. These categories of workers were classified as none skilled workers (see Table 4.4). This is because the socio-economic activities they engaged in did not require specialised skills. On one hand, peasant farmers who depended on sufficient rainfall for good harvest could not explain their monthly income due to unpredictable weather resulting to persistent crop failures. On the other hand, 2 parents who did not have a particular occupation explained they did laundry work at people’s homes for pay, sometimes sold cooked food to people in construction sites and worked on people’s farms for pay, which they could sometimes miss out. The following narrative is a reflection of parents’ socio-economic status by parents and depicts a sorry state on the part of the parents as regards economic status.

Majority of the parents are poor peasant farmers. When rains fail we lose all crops to drought. The same effect is transferred to youth polytechnics where parents without alternative economic means of livelihood cannot afford to pay fees. Most of the time institutions survive on government relief food (personal communication with parents at Vyulya YP, March 2013).
From these narratives most parents found it difficult to pay for education of their children at YPs. Only intervention by the government through donations of relief food kept children learning at YPs. These observations were supported by Ngumbao (2012) in his studies among YPs in Mombasa County. He observed that 45.9% and 13.6% of the studied parents of YPs were peasant farmers and business persons respectively.

In summary, out of 96 trainees’ parents, who participated in the study, majority were peasant farmers and business persons comprising of 53.1% and 15.6% respondents whose monthly incomes were not guaranteed due to unpredictable weather and fluctuating market prices respectively. These parents faced challenges in paying for their children upkeep at YPs. Further, the study documented that some trainees’ parents (29.1%) who participated in focus group discussion were employed skilled workers who served in various sectors as teachers, drivers, policemen, nurses and pastors. This category of parents enjoyed monthly steady incomes and could afford to pay for their children’s education at YPs.

4.4 Trainees’ Views about their Parents’ Socio-Economic Background

Trainees’ wrote responses to question items in a questionnaire about their parents’ socio-economic background which were analysed and tabulated in Table 4.4.

<table>
<thead>
<tr>
<th>Table 4.4: Second year trainees responses about their parents’ socio-economic occupations</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade</td>
<td>Skilled workers</td>
<td>None skilled workers</td>
<td>Peasant farmers</td>
<td>Business persons</td>
<td>Others</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Tailoring</td>
<td>48</td>
<td>75</td>
<td>20</td>
<td>4</td>
<td>147</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masonry</td>
<td>19</td>
<td>37</td>
<td>13</td>
<td>-</td>
<td>69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carpentry/joinery</td>
<td>19</td>
<td>42</td>
<td>7</td>
<td>-</td>
<td>68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>86</td>
<td>154</td>
<td>40</td>
<td>4</td>
<td>284</td>
<td></td>
<td></td>
</tr>
<tr>
<td>percentage</td>
<td>30.3%</td>
<td>54.2%</td>
<td>14.0%</td>
<td>1.4%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N = 284</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Data obtained from trainees during field inquiry, 2013.
The statistics show that 54.2% (154) of the parents were peasant farms while 14% (40) business persons. Almost one third (30.3%) trainees’ parents were skilled workers who served as church pastors, teachers, drivers, nurses and policemen. Moreover, few trainees wrote their parents had no specific economic activities that they relied on and therefore had persistent problems in paying for their education. Peasant farmers and local business persons were not salaried and depended on their effort and sheer lack in their daily activities to earn a living. However, from the socio-economic background of trainees’ parents it is clear majority of trainees faced challenges in buying tools prescribed by their instructors for trade’s practice and paying fees for their training. This scenario posed challenges on the ability of YPs to continue offering adequate vocational instructions without adequate finances.

In conclusion on trainees’ views about their parents’ socio economic backgrounds, the study established that majority of trainees came from poor socio-economic backgrounds where parents/guardians (54.2%) practiced peasant farming and 14% did simple businesses within their locality whose incomes were meager.

4.5 Choices of Trades by Trainees

a) Agriculture
During field inquiry, the researcher found out that none of the YPs mounted agriculture as a trade but it was offered to all 284 trainee informants as a support subject. In an interview with Nkubu YP manager on why the institution did not offer agriculture as a trade, he had the following sentiments:

We do not receive trainees requesting to train in agriculture. However, all trainees are taught basic agricultural concepts and practice cultivating maize, beans, carrots, tomatoes and kales. We use a simple greenhouse to demonstrate practical aspects of drip irrigation. The main challenge is tools and equipment for use in this subject (personal communication with Nkubu YP Manager, March, 2013).
The manager explained that the local community did not find agriculture trade a priority to be taught at YP because most agricultural practices were learnt through observations where people borrowed a leave from their neighbours and utilised services of local agricultural and extension office. He gave the example of fish farming practices in the local village with the assistance of fisheries officers where people were making good progress in rearing fish. The respondent concluded that some specific aspects of agriculture like fish rearing, poultry keeping among others could be taught to farmers and youth as a short course for a week or two. Furthermore, during formal interviews with instructors at Vyulya YP when asked why the institution did not offer agriculture as a trade yet it was a main economic activity in the area, the instructors were in agreement that agriculture was unpopular with most trainees. A carpentry instructor at Vyulya YP instructing agriculture observed that:

Agriculture is taught as a support subject to all trainees. It is not popular among the prospective trainees (personal communication with instructor, March, 2013).

The informant explained that the community viewed agriculture as an old occupation whose economic benefits were poor due to unreliable rainfall. Hence local community members perceived training in agriculture having no promising future career. The area being a semi-arid land lacked water for crop irrigation and animal rearing which would provide farm models to be emulated by trainees. These observations contrast sharply study findings by Kelemba (2005) cited by UNESCO-UNEVOC (2010) about model YPs in Kenya. They documented that training in farming was important for sustainable development because trainees gain skills on land preparation, use of manure, planting, weeding and watering of seedlings. Moreover, these studies argue that YPs could venture into least exploited areas of agriculture such as beekeeping, poultry-rearing, pasture growing, horticulture, growing aloe vera plants (for production of beauty
and medical substances) among others. MoYAS (2012) suggests that additional courses in which youth would be interested include indigenous-chicken (‘Kienyeji’) rearing, fish farming, greenhouse farming, bee keeping, garbage collection and recycling. However, MoYAS review did not provide extensive discussions on types of skills (cognitive, non-cognitive and technical) every YP trainee should develop. Thus, YPs training by exploiting least exploited and unexploited areas of agriculture was perceived by the current study as an important aspect in vocational training. This component of VET was lacking in studied YPs.

b) Masonry
In a multiple response question item in trainees’ questionnaire the researcher sought from trainee informants’ reasons why they selected and trained in masonry. The trainee informants’ analysed views presented in Figure 4.1 which shows that 76.8% (53) opined that construction opportunities were readily available and 71% (49) perceived masonry as requiring few resources to start a business.

![Figure 4.1: Trainees' responses why they trained in masonry](image)

**Source:** Data obtained from trainee during field inquiry, 2013.
Some respondents explained that house construction works were in demand in both rural and urban areas, therefore there were almost ready jobs awaiting them after completion of training. These opinions suggest majority trainees had confidence in their training and hoped to settle down to business after completion of their training. Besides, 37.6% (26) trainees were influenced by their parents to train in masonry.

Thus, parents influenced career choices of their children because they paid for their education and wanted them pursue courses that had higher chances of gainful or self-employment. However, 31.8% (22) trainees joined the trade because they failed to secure a place in secondary school. Moreover, many trainees explained their opinions in a questionnaire why they trained in masonry as follows:

Masonry tools are cheaply available in the market. Some of the equipment like mortar mixers and vibrators are hired by owners of construction projects; while others are substituted for cheaper ones such as using water in transparent flexible horse pipe to achieve floor level (masonry trainees’ responses written in a questionnaire, March 2013).

Thus, some masonry trainees were aware of the trade’s tools of work, ways of innovating tools and obtaining equipment in circumstances of need at work places such as level tool using water. Few respondents wrote that they admired masonry works of their relatives whom they saw as role models. Such works included constructions of stone classrooms and permanent people’s houses. In this regard studies by Ngumbao (2012) in YPs at Mombasa County concur with current findings in that majority 49.9%, 20.3% and 44.4% trainees said they enrolled at YP due to parental influence, role model and to get better employment opportunities respectively. Besides, these responses were strengthened by Okelo (2012) on people’s change of attitude towards technical vocational education in Uganda. The study found out that vocational areas that used to be male dominated were slowly being taken by women as well. Women participation in
men-related traditional trades and vice versa such as masonry and carpentry/joinery, home economics among others were now being accepted in our society today.

c) Tailoring
Trainees in tailoring trade gave their responses in a questionnaire on why they pursued tailoring career. Their analysed views presented in Figure 4.2 show that majority 91.8% (135) trainees opined tailoring had better opportunities in the clothing industry because people like fashionable clothes, therefore this presented them with opportunities to make clothes to customers.

Some 88.4% (130) and 32.6% (48) informants wrote they joined the trades because it is an in house vocation in markets centres and homes; and were motivated by role model tailors working in tailoring shops respectively. Some 34.6% (51) and 32.6% (48) informants wrote that they trained in tailoring because they were persuaded by their parents and took tailoring as a second choice after failing to secure a place in secondary school. In this connection, a boy respondent at Kanaani YP wrote the following in response to an open ended question in a questionnaire:

“*I have been motivated by my uncle who is a tailor. He makes and sells men’s suits and school uniforms. Whenever I visited his tailoring shop during my primary school days, I admired the way he was taking clients’ measurements*” (male trainee’s written response, March 2013).
These sentiments explain a self-driven trainee motivated by a role model into joining tailoring career. Thus, observing what others do could positively influence what an observer is likely to do. Further, a female trainee wrote her opinion in an open ended question item in the trainee’s questionnaire why she joined tailoring trade as follows:

“Masonry and carpentry are laborious courses. Take for example to plane a timber for table top or lifting a building block 10kgs up the 8\textsuperscript{th} course. Also the skills required in tailoring like cutting out the right size of a garment material is easily attainable by use of scissors unlike cutting stones with a chisel” (female trainee written response in a questionnaire, March 2013).

These opinions show that some females were still influenced by their kin and the society’s culture towards choosing a vocational trade while others were influenced by role models in their society today. However, majority of tailoring informants, while explaining their views in a questionnaire wrote the following sentiments:

\textit{With a singer, few sewing threads, tape measure, a table, few clothing materials and an iron box one can get started in tailoring. All you need is to tidy up your working environment and customers will come} (tailoring trainees’ responses written in questionnaires, March 2013).

The respondents cited the ease to initiate a tailoring business as a motivating factor. These sentiments explain what motivated some tailoring trainees into joining tailoring career. However, on the question about competition trainees were likely to face in their tailoring career by infiltration of clothing market by old imported cloths \textit{(mitumba)}, some of the trainees pointed out that:

\textit{The cloth markets are dynamic and there is a place for new cloths. For example, weddings, schools and special parties require participants wear new cloths and uniforms; such groups and individual persons would be potential customers} (tailoring trainees’ responses written in questionnaires, March 2013).

Thus, tailoring trainees did not perceive \textit{(mitumba)} cloths businesses a challenge to their careers. Furthermore these findings agreed with study observations by Ibuathu and Kubaison (2013)
which documented that tailoring and hair dressing were ranked the most popular trades with 86 and 66 trainees respectively in 6 sampled YPs in Nyambene region. This could be attributed to role modeling and the fact that tailoring is a soft trade not requiring laborious activities. Moreover, Bello et al. (2007) in Nigeria found that youths (18.75%) chose computer maintenance and operation works followed by tailoring (9.38%) among other trades in decreasing order. Such career choices were attributed to the then prevailing economic conditions, parental guidance and role models among others.

d) Carpentry/Joinery
Sampled carpentry/joinery trainees analysed responses are presented in Figure 4.3 on questionnaire items on why they joined the trade. Majority 67.6% (46) informants wrote they joined the trade because of many construction opportunities available in their locality.

![Figure 4.3: Trainees opinions why they trained in carpentry/joinery](image)

**Source:** Data obtained from trainees during field inquiry, 2013.

They explained that there was a lot of repair works to do like furniture, doors, roofing of houses, and painting in institutions like schools, peoples’ homes and market centres. On the other hand, 54.4% (37) of informants felt one could set up a furniture workshop at home at a relatively cheap
costs; hence minimising expenses for renting a house to operate in. However, in explaining their responses, majority of informants wrote the following sentiments in a questionnaire:

*Today, there are many carpentry works outside there. People are building while others are demolishing houses. Institutions like schools and hospitals, to mention a few, need carpenters for construction and repair works* (carpentry/joinery trainees’ written responses, March 2013). Thus, most trainees were influenced by job opportunities available in their community into joining carpentry/joinery trade. Moreover, a girl respondent in carpentry/joinery at a public YP in Mbeere Sub County wrote the following sentiments on why she joined the trade:

“I was attracted to do carpentry by opportunities available in schools and hospitals among others. Although carpentry is associated with men, these days’ women can do what men can do” (girl trainee’s written response, March, 2013).

These sentiments were a clear indication that the trainee was motivated into joining the trade because of carpentry opportunities available in her community. Moreover, on the question about competition they were likely to face in carpentry/joinery career from industry readymade plastic furniture, some of the informants wrote:

*Presence of plastic furniture sold cheaply in the market is a challenge to carpenters to produce cheap, durable and quality furniture. Therefore, some buyers require durable wooden furniture such as school desks, Tables, beds among others which are expensive to make but attract good profit* (carpentry/joinery trainees’ written responses, March 2013).

Thus, trainees perceived readymade plastic furniture as threat to their career, but could produce durable wooden furniture to ready buyers like schools and people’s homes. These findings agree with Ngumbao (2012) that majority (44.4%) of YP trainees at Mombasa County were motivated into joining carpentry and masonry because of available employment opportunities in their local community, albeit this being dictated by economic growth. Trainees had prospects to work with masons as partners alongside colleague carpenters at construction sites. This was in line with the thinking that vocational education gained importance after independence even though the Africans had not favoured it. This led to the establishment of post-primary vocational
institutions, like YPs, Vocational and Craft Centres that could provide rural primary school leavers with 2 years informal skills training for which there was demand in the local community (Sifuna, 1983; Mukabwa, 1996; King and Martin, 2002 and ILO, 2013). However, the low enrolment rates prevalent at sampled YPs despite many primary school leavers missing form one places at secondary schools is a clear indication of today’s youth negative perceptions about VET.

In summary, the study found out that none of the sampled YPs offered agriculture as a trade because YPs did not receive trainees requesting to train in agriculture; however, agriculture was taught to all trainees as a support subject. Some communities viewed agriculture as an old occupation of poor economic benefits due to unreliable rainfall; hence they perceived training in agriculture as a poor career. The study concluded that 76.8% trainees studied masonry trade because construction opportunities in schools, churches, people’s homes, estates, bridges, and dispensaries, among others, were readily available in both urban and rural areas. Moreover, 37.6% trainees were influenced by their parents to train in masonry because they wanted their children to pursue courses that had higher chances of gainful or self-employment. Some 31.8% trainees joined the trade as an alternative because they failed to secure a place in secondary school. Further, the study concluded that 91.8% trainees joined tailoring to seize opportunities in the clothing industry since people like fashionable clothes despite the challenges posed by mitumba cloths prevalence in markets. Some 88.4% informants joined the trades because it is an in-house occupation done in market centres and homes requiring little space. Some 67.6% carpentry/joinery informants wrote that they joined the trade because of many construction opportunities available in their locality. They explained there was a lot of repair works to do like
furniture, doors, roofing of houses, and painting in institutions like schools, peoples’ homes and market centres.

4.6 Trainees Perceptions about Overall Status of their Youth Polytechnics

For purpose of understanding status of sampled YPs, trainee’s written responses in a questionnaire about rating of the overall status of their YPs were analysed and presented in Figure 4.4.

![Figure 4.4: Trainees perceptions about overall status of their youth polytechnics](image)

The statistics in Figure 4.4 show that one third, 33.0% (93) and 16.0% (46) respondents rated overall status of their YPs as very good and good respectively. This rating was attributed to adequate availability of training facilities, tools, and instructors that made training both in theory and practice favourable in some YPs. Some 18.0% (51) and 32.0% (91) informants rated their YPs as satisfactory and poor respectively. The rating of overall status of some YPs as poor implied that the institutions lacked specific training facilities, tools and instructors. Thus, trainees’ experiences about the YP vocational training operations were unsatisfactory. Thus some YPs lacked capacity to offer adequate vocational training to their trainees.

In summary, the study concluded that almost an equal number of trainees (33% and 32%) rated their YPs very good and poor respectively. Hence YPs rated poor lacked most of the training
tools and facilities while those rated very good had adequate training facilities, tools, and instructors that made training both in theory and practice favourable. On the other hand some 18.0% trainees rated their YPs satisfactory because they could afford some of the basic training resources though lacking in sophisticated tools and equipment.

### 4.7 Youth Polytechnic Trainees’ Recruitment and Academic Qualifications

The researcher analysed enrolment records (applications forms and invitation letters) of trainees availed by YP managers and instructors for entry requirements. Copies of Kenya National Examination Council (KNEC 2011) results of Kenya Certificate of Primary Education (KCPE 2011) and Kenya Certificate of Secondary Education (KCSE 2011) obtained from sampled Sub County education offices were analysed for trainees’ entry marks requirements. Table 4.5 presents analysed data from documentary analysis showing that majority 94.7% (269) second year trainees were primary school leavers with 250 marks and below.

<table>
<thead>
<tr>
<th>Trainees’ academic entry qualifications</th>
<th>Tailoring</th>
<th>Masonry</th>
<th>Carpentry/joinery</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school dropouts</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>11</td>
<td>3.8</td>
</tr>
<tr>
<td>KCPE (250 marks and below)</td>
<td>138</td>
<td>66</td>
<td>65</td>
<td>269</td>
<td>94.7</td>
</tr>
<tr>
<td>Secondary school dropouts</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>1.05</td>
</tr>
<tr>
<td>KCSE D (minus)</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>0.35</td>
</tr>
<tr>
<td>Total</td>
<td>147</td>
<td>69</td>
<td>68</td>
<td>284</td>
<td>100</td>
</tr>
<tr>
<td>Percentage</td>
<td>51.7</td>
<td>24.2</td>
<td>23.9</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

N = 284  
**Source:** Official records of trainees’ enrolments data sheet at sampled YPs, 2012.

Finally the statistics present 1 KCSE graduate with a mean grade of D (minus). Thus, majority trainees admitted into YPs from primary schools had low marks which could be partly explained by high pupils’ teacher ratio of approximately 80:1 (MoHEST, 2005). Besides, a survey conducted in Ghana TVET institutions explained that the quality of basic academic skills (literacy and numeracy) with which prospective trainees sought admission in TVET institutions
was very low. Thus less than 25% of Ghana’s youth reach proficiency levels for P6 English, and 10% attain proficiency in P6 mathematics. The basic academic skills (literacy and numeracy) are the foundation for successful skill learning, and deficits brought from the primary school to post-basic TVET create serious problems for skill acquisition and learning (RoG, 2008). Moreover, ILO (2011) observes that it is important for a training provider to properly assess the interest and aptitude of each candidate before they enroll for training. So far the main aim of establishing YPs has not been realised to a big extent because of continued low enrolments not matching youths transiting from primary school to post primary institutions.

In summary, the study concluded that majority 94.7% of second year trainees at sampled YPs were primary school leavers with 250 marks in KCPE and below. Besides, some sampled second year trainees were both primary school and secondary school dropouts. The study sampled one secondary school leaver with a mean grade of D (plain) enrolled at a YP to train in masonry.

4.8 Trainees Views on Why YPs Enrollments Remained Low

The trainees appended in a questionnaire their perceptions on why YP recruitment of trainees remained low. The analysed data tabulated in Table 4.6 shows that majority 73.9% (210) respondents opined that community’s negative attitude towards vocational training influenced parents against enrolling their children at YPs. Strong parental pressures for academic credentials leading to white collar jobs has made TVET programme a ‘second-class’ option rather than an important component of the life-long learning process. This can be explained partly by the difference in salary of ‘blue collar’ workers compared to that of ‘white collar’ employees. Besides, 61.2% (174) and 55.6% (158) informants opined that YPs were perceived as institutions for academic failures and there were few YP leavers serving as role models to their peers respectively.
Table 4.6: Trainee informants' views on why YP recruitment of trainees remained low

<table>
<thead>
<tr>
<th>Trainees opinions</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community negative attitude towards vocational training</td>
<td>210</td>
<td>73.9</td>
</tr>
<tr>
<td>Government has neglected YPs training</td>
<td>196</td>
<td>69.0</td>
</tr>
<tr>
<td>YPs have been regarded institutions for academic failures</td>
<td>174</td>
<td>61.2</td>
</tr>
<tr>
<td>There were not many YP leavers serving as role models</td>
<td>158</td>
<td>55.6</td>
</tr>
<tr>
<td>Trainees future career prospects not promising</td>
<td>154</td>
<td>54.2</td>
</tr>
<tr>
<td>YPs competing for students with day secondary schools</td>
<td>154</td>
<td>54.2</td>
</tr>
<tr>
<td>Failure to advertise YP programmes</td>
<td>112</td>
<td>39.4</td>
</tr>
</tbody>
</table>

N = 284  
Source: Data obtained from trainees during field inquiry, 2013.

Some 39.4% (112) informants wrote that lack of vigorous advertisements of vocational programmes by YPs kept the masses unaware of existing YP potentials.

These findings were reinforced by (Foster, 1965a and 1965b; King and Martin, 2002). Foster (1965a) argued that while policy can have many noble goals of improving the situation of socially and economically disadvantaged people, the actual attitudes and behaviour of young people in Ghana did not match these goals. Further, King and Martin (2002) and World Bank (2013) explain that Foster’s main message was that youth in Africa had rationally decided in the sixties; despite all types of attempts to change the attitude that an academic education would be better for achieving their goals and improving their position than vocational schooling. Indeed the same perceptions and feelings were held by some sampled trainees and parents of YPs in this study.

During formal interviews with the researcher at Vyulya YP on why YPs’ recruitment had remained low, one instructor lamented that:

Day secondary schools are admitting standard eight KCPE leavers with as low as 80 out of 500 marks. Secondly, the local people’s negative attitude about vocational training has discouraged youths from enrolling at YPs (personal communication with instructor, March 2013).

Besides, majority instructors during formal interviews with the researcher observed that even poor parents who used to send their children to YPs no longer do so but take them to a nearby
day secondary school. This is because of economic returns associated with academic education. Moreover, fees charged at YPs is equivalent to that charged at day secondary schools, an average of Ksh. 3,500.00 per term (MoYAS, 2012).

During formal interviews with instructors at Gitugu YP on why their institution was under enrolled, one instructor had the following sentiments:

> Children in primary school are told YPs are places for failures. Last year, a parent in this YP lamented that the son had repeated class eight for two consecutive years without scoring good marks to join boarding secondary school (personal communication with instructor, March 2013).

These sentiments indicate that some parents took YPs as institutions for the poor students. Further, the researcher during interviews with instructors at Don Bosco YP sought their opinions on status of trainee enrollments in all trades. An instructor gave the following observations:

> We receive many applications in all trades. But we select best 20 applicants with good KCPE marks. The institution enjoys good training facilities donated by Friends of Don Bosco from Italy (personal communication with instructor, March 2013).

Don Bosco YP receives many applicants giving room to instructors to select the best from the pool of applicants. This is attributed to availability of good training facilities at the YP. Further, during interviews with instructors at Kyemutheke YP, the researcher sought their opinions on why their institutions registered poor trainee enrolments. One informant argued that:

> Local people hate educating their children here. They say its waste of resources. Some say ‘so’ and ‘so’ is a carpenter and has never been to anybody’s school. Opinion leaders and politicians tell public gatherings those passing well at class eight and form 4 will be sponsored through Constituency Development Fund (CDF) and failures belong to YPs (personal communication with instructor, March, 2013).

These sentiments allude that even community leaders look down upon YPs rather than explaining their usefulness in the community’s economic development agendas. Such pronouncements discourage parents and potential trainees from enrolling into YP training. In
supporting these findings, Ngumbao (2012) observed that most of the respondents (63.3%) in Mombasa County preferred secondary school education over vocational training. However, the respondents said that this perception was not based on YPs being for the academically weak.

In conclusion about trainees’ views on why YP recruitment remained low, the study documented that 73.9% trainee respondents opined that community’s negative attitude towards vocational training influenced parents against enrolling their children at YPs. Strong parental pressures for academic credentials leading to white collar jobs had made TVET programme a ‘second-class’ option rather than an important component of the life-long learning process. Some 61.2% and 55.6% informants opined that YPs were perceived as institutions for academic failures and there were few YP leavers serving as role models to their peers respectively. The study concluded that 39.4% informants observed that lack of vigorous advertisements about vocational programmes by YPs kept the masses unaware of existing YP potentials.

4.9 Views of Trainees, Instructors and Parents on the Purpose and Functions of YPs

The first study question was: Do trainees, instructors as well as the community still have faith in the purpose and functions of the youth polytechnics? First trainees’ views were documented.

4.9.1 Trainees views about purpose and functions of YPs

Trainees wrote their responses in a questionnaire about their opinions on functions of their YPs. Their analysed responses tabulated in Table 4.7 show that majority 72.8% (207) informants appreciated the functions of YPs by then. In their written statements, they explained that YPs could expand their training by adopting modular curricula which could accommodate trainees in need of vocational skills at different times in a year. A further, 36.2% (103) informants wrote that YPs had the potential to transform into vocational innovation centres at village levels.
### Table 4.7: Trainees’ views about purpose and functions of YPs

<table>
<thead>
<tr>
<th>Written responses</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive views</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Making flexible curricula-modular.</td>
<td>207</td>
<td>72.8</td>
</tr>
<tr>
<td>Setting up income generating units</td>
<td>173</td>
<td>60.7</td>
</tr>
<tr>
<td>Trainees equipped with relevant vocational skills</td>
<td>156</td>
<td>54.9</td>
</tr>
<tr>
<td>Transforming into vocational innovation centres at village levels.</td>
<td>103</td>
<td>36.2</td>
</tr>
<tr>
<td><strong>Negative views</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People’s negative attitude towards vocational training</td>
<td>87</td>
<td>30.6</td>
</tr>
<tr>
<td>Poor training resources, outdated equipped/tools</td>
<td>75</td>
<td>26.4</td>
</tr>
<tr>
<td>YPs neglected by national government</td>
<td>73</td>
<td>25.7</td>
</tr>
<tr>
<td>Failure to embrace ICT knowledge</td>
<td>70</td>
<td>24.6</td>
</tr>
<tr>
<td>Youths dislike manual work</td>
<td>69</td>
<td>24.2</td>
</tr>
<tr>
<td>YPs operate independent of host communities</td>
<td>50</td>
<td>17.6</td>
</tr>
<tr>
<td><strong>N = 284</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Source:</strong> Data obtained from trainees during field inquiry, 2013.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On the other hand some 30.6% (87) informants said that some people had negative attitude towards vocational training. Thus, some parents were not willing to have their children study vocational courses at YPs. 17.6% (50) informants explained that YPs operate independent of host communities and lag behind market vocational needs. In concurring with these findings, studies by Young (2010) cited by Wheelahan and Moodie (2011) observed that only 30% of VET graduates work in jobs that are directly associated with their qualifications while a further one third (33%) found the training relevant. The low percentage of graduates working in jobs directly associated with their qualification undermines the purpose of VET qualifications as currently defined, which is to provide the specific skills needed for specific occupations and to ensure efficient training.

In conclusion, on trainees’ views about functions of YPs, some 72.8% of trainees explained that they had confidence in YPs because they had potential to expand their training by adopting modular curricula. Such curricula could accommodate potential trainees from various sectors in need of vocational skills at different times in a year. Some 36.2% of the informants explained that YPs had the potential to transform into vocational innovation centres at village levels. On the other hand some 30.6% of the informants argued that some parents had negative attitude...
towards vocational training. Such parents were not willing to have their children study vocational courses at YPs. Finally the study observed that 17.6% of informants opined that most YPs operated independent of host communities and lagged behind market vocational needs.

4.9.2 Instructors’ views about purpose and functions of YPs

The researcher during formal interviews with instructors inquired their perceptions about the immediate functions of the YPs in which they were serving. The informants’ response statistics presented in Table 4.8 indicate that 77.2% (34) and 75% (33) informants appreciated functions of YPs within the community. They perceived YPs had continued to supply vocationally trained personnel to community services and equipped youths with vocational skills for self or gainful employment respectively.

<table>
<thead>
<tr>
<th>Written Responses</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive views</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YPs supply vocationally trained personnel for community services</td>
<td>34</td>
<td>77.2</td>
</tr>
<tr>
<td>Equipping youths with vocational skills for self or gainful employment</td>
<td>33</td>
<td>75</td>
</tr>
<tr>
<td>County governments responsible for YPs will transform and equip YPs.</td>
<td>29</td>
<td>65.9</td>
</tr>
<tr>
<td>YPs have opportunity to empower local people with vocational skills</td>
<td>23</td>
<td>52.2</td>
</tr>
<tr>
<td><strong>Negative views</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continued communities’ negative attitude towards vocational training.</td>
<td>17</td>
<td>38.6</td>
</tr>
<tr>
<td>Lack of clear government policy guidelines on YPs</td>
<td>16</td>
<td>36.3</td>
</tr>
<tr>
<td>Persistent poor training environment at YPs</td>
<td>12</td>
<td>27.2</td>
</tr>
<tr>
<td>Piece meal government support to vocational training</td>
<td>12</td>
<td>27.2</td>
</tr>
<tr>
<td><strong>N = 44</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Data obtained from instructors during field inquiry, 2013.

Such personnel included tailors, carpenters and masons. Furthermore, 52.2% (23) respondents observed that YPs had the opportunity to empower local people with vocational skills. Some 38.6% (17) and 36.3% (16) informants explained that continued communities’ negative attitude towards vocational training and lack of clear government policy on YPs vocational training respectively were barriers against vocational training. The instructors lamented that it was unfair to lump together YPs with other mainstream technical training institutions like national polytechnics under one training policy guidelines as was the current status in Kenya.
Towards this end MoYAS (2012) and Balwanz, (2012), observed that the extent to which courses offered are supply or demand-driven and relevant to the local economy was unclear, however, it is likely that YPs have less flexibility in updating courses, as curriculum must pass through several stages of quality assurance. Besides, survey data from YP trainees, graduates and employers identify important skills gaps as lack of capacity of YP graduates to use modern automated machines, equipment and tools, trade knowledge and practical exposure in the world of work.

In summary, about instructors’ perceptions on functions of YPs, the study concluded that 77.2% and 75% instructor perceived YPs as having continued to supply vocationally trained personnel to community services and equipped youths with vocational skills for self or gainful employment respectively. Such personnel included tailors, carpenters and masons. Furthermore, 52.2% of the respondents observed that YPs had the opportunity to empower local people with vocational skills. However, some 38.6% and 36.3% of the informants opined that continued communities’ negative attitude towards vocational training and lack of clear government policy on YPs vocational training respectively were the main barriers against vocational training.

4.9.3 Parents’ and BOM Views about purpose and functions of YPs

During focus group discussions, parents and BOM members’ views were sought on functions of YPs within their community. The informants’ analysed views presented in Table 4.9 show that respondents had divided opinions for and against prevailing functions of YPs. Thus, 73.4% (97) of the informants explained that YPs trained artisans offering useful goods and services to communities. Such services included tailoring in clothing, carpentry/joinery and masonry in rural and urban areas. Further, same respondents observed that YPs provided vocational skills to some
youth missing form one places. On the other hand some informants faulted the functions of YPs by then.

| Table 4.9: Parents and BOMs’ perceptions about purpose and functions of YPs |
|---------------------------|-------------|-------------|
| Opinions |
| Positive views |
| Trained artisans were offering useful services to communities | 97 | 73.4 |
| Provide vocational skills to some youth missing form one places | 97 | 73.4 |
| Resourceful training institutions in a community | 71 | 53.7 |
| Negative views |
| Communities negative attitude towards YP training | 45 | 34.0 |
| Under enrollment of trainees at YPs | 36 | 27.2 |
| Vocational training does not lead to a promising career | 32 | 24.2 |
| Poor status of training environment prevalent at YPs | 24 | 18.1 |
| Lack of clear government policy on YPs | 20 | 15.1 |

N = 132  Source: Data obtained from parents and BOM during field inquiry, 2013.

In their explanations, 34% (45) and 24.2% (32) informants said that communities negative attitude towards vocational training and that vocational training do not lead to promising career respectively made people dislike vocational training. Besides, this was attributed to under enrolment at YPs by 27.2% (36) parents. Thus, parents had reservations taking their children to YPs since their children preferred white color jobs. Some 15.1% (20) respondents lamented that lack of clear government policy guidelines governing VET left YPs with no clear mandate especially on resource mobilisation for sustainable training. Moreover, during focus group discussions with BOM and parents at Uhuru YP the informants lamented that:

This youth polytechnic should initiate other courses attractive to local people such as skin and hides care and pre-processing, poultry and bee keeping. The pastoral community here may like services of modern hides care (personal communication with parents and BOM, March 2013)

These sentiments pointed a big disconnect between what the YPs offered and what vocational courses parents and BOM perceived communities wanted. Besides, the overall goal of TVET programme in Kenya is to improve access, quality and relevant skills development (Republic of
Kenya, 2005a; 2005b cited by UNESCO-UNEVOC, 2010). However, one main challenge facing this sub-sector is inadequate facilities and capacities to cater for those who complete primary and secondary education and wish to undergo VET (Republic of Kenya, 2005a). New technologies have presented new methods of training prompting staff to be trained and retrained. To this end, sampled YPs have not started to address these challenges.

In its key findings, the study concluded that 73.4% informants valued functions of YPs since they trained artisans offering useful goods and services to community members. Such services included tailoring in clothing, carpentry/joinery and masonry in rural and urban areas. On the same measure YPs provided vocational skills to some youth missing form one places. On the contrary, some 34% and 24.2% informants said that communities’ negative attitude towards vocational training and that vocational training does not lead to promising career respectively made people dislike vocational training. The study concluded that parents had observed that young people nowadays were not attracted by manual work but instead like light work like office jobs. Some 15.1% respondents lamented that lack of clear government policy guidelines governing VET left YPs with no clear mandate especially on resource mobilisation for sustainable training.

**4.10 Instructional Methodologies Employed at YPs**

The researcher sought answers to the second study question which read: *In what ways is curriculum implementation carried out among youth polytechnics?* During field inquiry the researcher requested for syllabi documents in the trades of masonry, tailoring and carpentry/joinery from sampled instructors. These syllabi were a source of training guidelines that instructors used in preparing and disseminating instructions to trainees during theory and practice lessons.
4.10.1 Training guidelines

The sampled instructors at St. Joseph’s and Don Bosco YPs availed National Industrial Training Authority (NITA) guidelines (annex IV:-G); the rest provided Kenya Institute of Education (KIE) currently-Kenya Institute of Curriculum Development (KICD) artisan training guidelines (annex IV:-H) in the trades of masonry, carpentry/joinery and tailoring. Moreover, during interviews with instructors, the researcher sought reasons why instructors were teaching using KIE syllabus instead of the recommended NITA guidelines which was the examining body. Some of the instructors explained that their YPs issued them with KIE trade syllabi. They said that KIE syllabi were structured in terms of content and found it useful during teaching. Moreover, a carpentry instructor at Kyemutheke YP in Machakos Sub County replied that:

Artisan KIE and NITA syllabi have almost similar content per trade. However, I understand the structure of NITA exams and have requested the YP management to provide NITA syllabus (personal communication with instructor, March 2003).

These sentiments point to failure by YPs to provide relevant training guidelines to instructors as they continued using KIE syllabus without minding consequences of deviating from NITA training guidelines and how this could affect trainees. This confirms findings by Akplu and Amankrah (2008) in Ghana TVET mapping that trainees and graduates lacked certain basic domain-specific skills that employers wanted. Thus, industry, government and VET stakeholders may have to tackle the issue of curriculum relevance before embarking on training delivery. The realities of the “difficult labour market” need to be made known to students/trainees at the start of training programmes.

Through document analysis and using checklist, the researcher recorded several topics appearing in NITA and missing in KIE masonry, tailoring and carpentry/joinery syllabuses as tabulated in annex IV:-I. These are 2 topics in carpentry/joinery, 3 topics in masonry and 3 topics in tailoring.
These topics ought to be taught trainees so as to enhance their VET skills. Besides, NITA syllabi emphasised more on relevant practicals that were industry based. Thus, trainees taught using KIE guidelines could face challenges at work places in future when they encountered tasks requiring knowledge from these topics. During interviews with instructors, the researcher sought whether they were aware of specific topics present in NITA Carpentry/Joinery, masonry and tailoring syllabus that were missing from KIE artisan syllabus. In response, majority instructors from 9 out of 11 sampled YPs said they were not aware about existing differences between the two sets of syllabi. One tailoring instructor at Nazareth YP gave the following sentiments:

“I’m not aware of any topic in NITA syllabus that is not in KIE syllabus. I have been using KIE carpentry/joinery syllabus to teach trainees (personal communication with instructor, March, 2013).

These sentiments could partly be explained by the fact that majority of the instructors were untrained. However, several scholars (Greeno et al., 1984; Oates, 2004; Winther, and Achtenhagen, 2009) as cited by Gloria and Efajemue (2011) explain that VET training guidelines must focus on conceptual competence that correspond to knowledge of facts, structures, and knowledge nets that can be transmitted into action schemata. Hence, procedural competence subsumes the application of knowledge- how to operate with facts, structures, knowledge nets and their corresponding elements and interpretative competence that provides connections between features of the problem setting and goals of the learner. Some of these aspects have been missing during training at sampled YPs.

Moreover, during documents analysis, the researcher documented that NITA-GTT III carpentry/joinery, masonry and tailoring did not state the actual durations required in training theoretical knowledge or practical competences in each topic. However, the training guidelines
documented that a candidate seeking specific trade testing competency assessment for a certain level would be expected to fulfill the following requirements:

i. Proof of previous experience in the trade area and level, where necessary.
ii. Paying the requisite fees for the level of test.

Thus, NITA syllabi emphasised on adequacy of a candidate’s practical skills competences in a trade before taking examinations. In this connection, ILO (2012) clauses 278, 280 and 307 of International Standard Classification of Occupations version 2008 (ISCO-08), classifies carpenters/joiners, masons and tailors under Major group 7 with Unit Group 7115, 711 and 7531 respectively. Competent performances in most occupations in these sub major groups are skills in ISCO-08 which require demonstration of the following abilities:

1. Read information such as safety instructions;
2. Make written records of completed work;
3. Accurately perform simple mathematical calculations;
4. Good interpersonal communication skills;

In this regard NITA carpentry/joinery, masonry and tailoring guidelines were guided by ISCO-08 standards developed by ILO 2012. Thus, during formal interviews with instructors the researcher sought whether instructors were aware of ISCO-08 training standards. In response all 44 informants said they were not aware of ISCO-08 vocational training standards. This could be attributed to the fact that majority of the instructors were unqualified professionally and less informed about current VET issues. Thus, Nyerere, (2009) and Achieng (2012) observed that failure to attend seminars in vocational training kept teachers uninformed about emerging issues in vocational skill competences. Besides, Sharma (2008) argues that substantial numbers of vocational teachers in South Pacific were unqualified in the areas in which they were teaching;
about 42% in office technology and 59% in carpentry and joinery. Moreover, these teachers had very little opportunity for regular up-skilling and work place attachments. However, YPs could rationalise existing courses in order to avoid duplication, improve the effectiveness of TVET subjects and operate within the limited resources and funding available. This could be done by introducing modular approach using spiral curriculum. Furthermore, Muthee, (2010) and UNECA, (2011) on youth policies in Kenya observe that, policies should seek to integrate and link the informal participation setting to wider institutional structures such as education, welfare, and labour market in order to enhance their capacity to training and empower youth.

Therefore in summary, the study concluded that 9 out of 11 sampled YPs implemented KIE training guidelines as opposed to NITA guidelines which is the examining body. Thus majority instructors in 9 out of 11 sampled YPs were not aware about existing structural and content differences in NITA and KIE syllabi. Additionally, all sampled 44 instructors said they were not aware of ISCO-08 training standards. This was because majority of instructors were unqualified in both professional and trade areas. Besides, NITA syllabi had 2 topics in carpentry/joinery, 3 topics in masonry and 3 topics in tailoring but missing from KIE syllabi. Finally, NITA syllabi as opposed to KIE syllabi emphasised on adequacy of a candidate’s practical skills competences in a trade before taking examinations. NITA syllabi were guided by ISCO-08 training standards.

4.10.2 Trainees’ views about implementation of trade guidelines
Trainees wrote their opinions in a questionnaire on ways trade guidelines’ were implemented in their respective YPs as shown in Figure 4.5. The statistics in the bar graph show that 98.9% (281) trainees opined they sat end of term/end of course exams.
Some 98.5% (280) and 97.8% (278) respondents wrote practicals and theory lessons were allocated 14 teaching and 4 teaching hours in the teaching timetable per week respectively. This translates to practical/theory lesson hours as 14:4 equal to 7:2 per week. Thus, trainees explained that they attended 1 hour theory lesson per day for 4 days that was later followed by 2 hours each of practice for two days and 3 hours each of practice for two days and finally 4 hours of practice on the fifth day. Thus, actual time in teaching hours devoted to theory/practicals is 1:2 for the first two days of the week and 2:10 translating to 1:5 for the remaining three days of the week. During theory lessons, an instructor demonstrated particular vocational skills. The demonstrated skills would be practiced during subsequent practical lessons. Some 98.2% (279) trainees wrote supportive subjects (entrepreneurship, communication skills, and technical drawing) were allocated 2 teaching hours each per week. Some 61.6% (175) informants wrote that ICT lessons were allocated 2 to 4 teaching hours per week. Through document analysis of teaching timetabled work load the researcher corroborated the data provided by trainees about teaching.

Figure 4.5: Trainees perceptions on implementation of trade guidelines

Source: Data obtained from trainees during field inquiry, 2013.
hours for practice and theory lessons. The corresponding time allocation ratios as discussed above were same as lesson time ratios in master timetables of each sampled YP as 7:2 (14 and 4 hour), for practice and theory lessons per week. However, this ratio fell below documented KIE (2008) carpentry/joinery, masonry and tailoring teaching time of 9 hours practice to 1 hour theory per week translating to 9:1 per week. Thus, studies by (Ismail, 2010; RoK, 2006 and Kamalawati, 2012) supplement the current study findings by observing that giving instructions to trainees focuses on providing theoretical and conceptual frameworks. Thus, theory lessons are delivered through didactic methods such as lectures, discussion groups and suggested readings. Moreover, Faraday, Overton and Cooper (2011) argue that instructors play a pivotal role in stimulating and motivating students in preparation for practice lessons. Hence effective teachers are reflective; they constantly assess and re-evaluate their practice, discuss it with their peers, consider their learners’ responses and seek to develop new teaching ways.

In conclusion, 98.9\% of sampled second year trainees opined that they sat end of term/end of course exams. Some 98.5\% and 97.8\% trainees observed they attended 1 hour practice lesson per day for 4 days that was later followed by 2 hours each of practice for two days and 3 hours each of practice for two days and finally 4 hours of practice on the fifth day respectively. This timetable arrangement gave trainees good time to reflect and apply theoretical concepts taught to them during practice lessons. Besides, some 98.2\% trainees wrote supportive subjects (entrepreneurship, communication skills, and technical drawing) were allocated 2 teaching hours per week.
4.10.3 Opinions of DYT, SCYTOs and YP managers on implementation of trade guidelines at YPs

During separate interviews with DYT, SCYTO and YP managers, the researcher sought their views on implementation of trade guidelines at sampled YPs. Out of 16 informants, some 62.5% observed that YP trainees achieve skills competences despite difficulties experienced in financing of vocational education. This was in support of subsidised YP training fund (SYPT) of Ksh. 5000 granted each trainee in public YPs per term (MoYAS, 2012). Some 43.7% (7) and 25% (4) informants opined that YPs had: managed to strengthen governance and management of instructional delivery by employing additional instructors and practiced affirmative action in respect to gender and persons with special needs during recruitment of trainees respectively. Such YPs enrolled trainees with disability in courses like tailoring. In complementing these findings (Kinyanjui, 2007 cited in Muthee, 2010) pointed out that YP education is not necessarily a direct or immediate route to employment, rather it is a futuristic investment that parents and households make to equip their children with skills in the hope that they will have a better life than themselves. Moreover, Kelly, (2001) cited in Wyn and White, (2008) argues that policies that locate young people’s value in their future as adults also tend to emphasise “governmentality”, rather than seeking to integrate and link the informal participation setting to wider institutional structures such as education, welfare, and labour market for capacity building and empowerment.

During formal interviews with a SCYTO from Meru Central on YP course implementation the informant observed that:

Each trainee benefits from subsidised YP training (SYPT) fund kitty of Ksh. 5000 per term from the Government of Kenya. The government is posting diploma holders in vocational education to head YPs and is encouraging instructors to upgrade their teaching skills (personal communication with SCYTO, March 2013).
However, during formal interviews with instructors, they lamented that no instructors except managers were posted to respective YPs, meaning shortage of instructors in almost all trades existed. While instructors were willing to upgrade their skills they cited poor pay and non affordability to pay for their training besides household expenses as the core factors hindering them from joining institutional based courses.

In summary, some 62.5% respondents’ (YP managers, SCYTOs and DYT) observed that YP trainees achieved skills competences despite difficulties experienced in financing of vocational education. Some 43.7% and 25% informants observed that YPs had managed to strengthen governance and management of instructional delivery by employing additional instructors. Finally, YPs practiced affirmative action in respect to gender and persons with special needs during recruitment of trainees.

4.11 Trade Lessons

The third study question that the researcher sought answers for was: What are the perceptions of instructors and trainees about instructional methodologies used by youth polytechnic instructors in giving instructions? In endeavour to answer this question, the researcher obtained data from sampled trainees and instructors through written questionnaire and formal interviews respectively in the sampled trades. First, the trainees’ data was organised and analysed into respective thematic areas of instructional methodologies as discussed below

4.11.1 Theory lessons

In a multi response question item in a questionnaire about commonly used method by instructors in giving theory instructions, trainees’ opinions in the 3 sampled trades were analysed, and presented in Table 4.10. The analysis shows that majority 79.9% (227) trainees said, while instructors employed demonstration method, trainees later explained how those skills worked.
Table 4.10: Trainees opinions on methods used in giving theory instructions

<table>
<thead>
<tr>
<th>Instructional Methods</th>
<th>Learning activities</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrating a skill</td>
<td>Explaining a skill</td>
<td>227</td>
<td>79.9</td>
</tr>
<tr>
<td>Individual project work</td>
<td>Doing a project</td>
<td>210</td>
<td>73.9</td>
</tr>
<tr>
<td>Question and answer method</td>
<td>Note taking and answering questions</td>
<td>205</td>
<td>72.1</td>
</tr>
<tr>
<td>Drawing</td>
<td>drawing relevant tools/equipment</td>
<td>182</td>
<td>64.0</td>
</tr>
<tr>
<td>Group activities</td>
<td>Solving geometry/arithmetnic problems</td>
<td>166</td>
<td>58.4</td>
</tr>
<tr>
<td>Field trips</td>
<td>Recording: uses of a machine; observing stages of producing a product</td>
<td>123</td>
<td>43.3</td>
</tr>
<tr>
<td>Photographs and pictures</td>
<td>Interpreting photographs and pictures</td>
<td>118</td>
<td>41.5</td>
</tr>
</tbody>
</table>

N = 284  **Source:** Data obtained from trainees during field inquiry, 2013.

However, few respondents wrote they had some difficulties to explain some vocational skill concepts. For example, a trainee at Iriamurai YP wrote the following sentiments:

*Although my instructor demonstrates a particular trade’s skill like measuring round edges and cutting it smoothly, I have some difficulties to explain the same later unless with repeated trials* (*written response by carpentry/joinery trainee, March 2013*).

Thus, some trainees had some difficulties explaining how some specific vocational skills work.

This was related to inadequate practice a trainee engaged in during and after lessons. On the contrary, at Don Bosco YP, masonry trainee informants in their questionnaires explained that:

*Immediately after the instructor demonstrates a specific skill, we practice in group of twos. For example, one takes measurements of a solid cylinder drawing, the other draws its net surface area* (*written response by masonry trainees, March 2013*).

These sentiments confirmed trainees’ confidence in skills they were taught in masonry. Through practice, trainees could master skills taught and apply them correctly. Statistics in Table 4.10 show that 64.0% (182) of informants observed that an instructor employed drawing methods on the blackboard or on manila paper while trainees learning activities comprised of tracing and sketching of relevant structures and models in drawing exercise books. However, few trainees wrote they faced challenges in measuring small lengths, especially in millimetres and curved lines. Although they used relevant tracing and sketching tools like tracing paper, plain paper, Set Square, pencil, and a ruler, some trainees explained theory lessons had some difficulty terms to
understand, interpret and apply correctly. They explained that this was simplified by instructors using *Kiswahili* to interpret difficult concepts. Some 58.4% (166) informants indicated that they engaged into solving numerical problems in geometry and arithmetic. This entailed drawing solids, nets and calculating perimeter, surface areas and volumes in exercise books. This enhanced ability to determine amount of material for making a certain furniture, structure or cloth. However, only 25.7% (73) informants said that they attended workplaces to practice and enhance trade skills. From data in Table 4.10, it was apparent that some teaching methods like use of mini projects, audio visual aids (videos and projectors) were not utilised. This is because either instructors were not aware of their existence since they were not professionally qualified or due to inadequacy of training resources. On the other hand from analysis of NITA (2013) syllabuses, masonry, tailoring and carpentry/joinery were allocated four theory teaching hours per week taught as single hour on different days. The single hour lesson gave trainees time to digest and relate theoretical concepts with practice lessons; an approach that seemed to inspire trainees to think about what they could achieve through their own means. In this connection, ILO (2011) points out challenging issues for VET teachers as developing a position on learning styles, including gaining the following: a deeper understanding of individuals, learning styles and preferences; an improved awareness of his/her own approach to learning styles, as a teacher; and a clear appreciation of the debates around learning styles. On the other hand, Murithi (2013) observes that in order to improve quality of teaching, instructors should practice appropriate teaching methods and encourage application of skills in a practical programme or mini business project in the institution. This could allow students to be more independent, foster appropriate attitudes and respective trade thinking. Instructors must also ensure that students in a programme are innovative and competitive, both mentally and physically.
4.11.2 Practical lessons

Trainees actualise theoretical concepts and skills taught in theory lessons during practice. Trainees written perceptions in a questionnaire about instructing of trade practical lessons were analysed as shown in Figure 4.6. Statistics in Figure 4.6 show that 98.9% (281) and 81.6% (232) informants stated that they sat end of term practical exam to make a defined model and did a project within the term respectively. These activities entailed trainees getting written instructions to make, say, in carpentry/joinery a wooden cabinet with a fine finish by applying clear vanish. To achieve this, trainees wrote in their questionnaires tools like hammer, jack plane, chisels, saws, sand paper and brush together with materials: timber, nails, glue, and vanish were used. In carpentry/joinery trade, the researcher with the assistance of respective trade instructors and two research assistants check listed items made by trainees and ascertained their quality in terms of finishes.

![Figure 4.6: Trainees' views on implementation of trade practical instructions](image)

**Source:** Data obtained from trainees during field inquiry, 2013.
Specifically, desks, stools, pointing moldings on stone walls, and coffee tables were check listed in majority of sampled YPs (see annexes: IV:-C, IV:-D, IV:-K and IV:-L respectively). Some of these items were three quarter way complete while others were complete as the students’ projects were still ongoing. Their quality was satisfactory despite inadequacy of training facilities experienced by trainees. For example, the desks, and stools at Vyulya, Kyemutheke, Kaanani and Iriamurai YPs were well planed with smooth surface and edges. However, the desk joints were not tight enough either due to failure to apply wood adhesive or inadequate utilisation of fastening clump when jointing. This results to a weak joint. This is illustrated in annex IV:-C. On the other hand, stools and coffee tables made by sampled second year carpentry/joinery trainees at Don Bosco YPs and St. Josephs shown in annexes IV:- D and IV:- L respectively had smooth surfaces with fine clear finish because they enjoyed adequate tools of trade. However, not many items were made as students had just entered second year where they had started making a specific item for term one project.

Similarly, in tailoring and masonry trades, trainees were given similar assignments to practice specific skills. Some, 73.5% (209) and 45% (128) respondents said that they manipulated an equipment to learn a described skill/s and visited workplaces to practice with automated tools/equipment respectively. For example, in tailoring trade, trainees explained that: for efficient use of a sewing machine, a trainee ensures a reel thread is placed in the singer’s holding arm and into the sewing needle. A thread of same colour is rolled full onto the bobbin and bobbin case locked. Then a garment to be hemmed is held on the table with the hemming edge directly under the sewing needle and the tailor starts the machine running. Thus, the researcher with assistance of two research assistants and the sampled tailoring instructors check listed tailor made items such as table cloths and aprons about the stitches made on them such as hemming, buttoning
holes finishes and joining of specific garment parts like collar and back of an apron. The observed clothing items in annexes IV:-E and IV:-J at Gitugu and Nkubu YPs respectively were fairly made. However, some of the button holes needed more hemming and resizing to allow good fitting of button.

On the other hand, masonry trainees said they visited a workplace to practice specific skills with a concrete mixer machine where they learnt to operate it by mixing aggregate, sand and cement in the proportions of 5:4:1 respectively to produce concrete for flooring, erecting beams among others. Thus, the researcher with the help of research assistants and sampled masonry instructors check listed building blocks and dressed stones by sampled masonry trainees. The concrete blocks at St. Josephs and Nkubu YPs were satisfactorily made as shown in photographs in annex IV:-F. Most of the blocks were complete cuboids with smooth and tough surfaces and edges, meaning they were strong and could be used for building purposes.

In this connection, studies by Hytti and O’Gorman (2004) observe that practical aspects of VET combine and integrate with theoretical aspects of education. Therefore teaching approaches should give students practical exposure in a controlled environment which includes real-life activities outside the classroom that nurture and strengthen skills competences (Kamalawati, 2012); an aspect missing from studied YPs. However, (Hopkins, 2007 cited by Faraday, 2011) argues that effective teaching involves employing appropriate teaching: skills, relationships, reflection and models. It is only when these four elements are in synergy that they are able to support effective teaching. Thus, teaching of both practice and theory in YPs lacked reflections, models and relationships due to inadequate qualifications of majority instructors.
In written explanations in a questionnaire, a trainee at Iriamurai YP had the following sentiments about practice lessons in masonry trade:

*We learn some practical skills with difficulties because of limited training tools and equipment. Some tools like chisels for grooving are not enough* (response by masonry trainee, March 2013).

These were written discontents of a trainee who had difficulties in doing practice due to shortage of training tools. Another tailoring trainee informant at Uhuru YP in Isiolo documented the following vocational practical lesson experiences:

*Most of our practical lessons are taught in theory because consumable materials and training tools are few. Only two singer machines are working. Our instructor uses his singer to demonstrate some skills to us* (written response by a trainee, March 2013).

The informant was confident to explain the difficulties he experienced during practicals. These had a negative multiplier effect on trainees’ skills acquisition. These findings were complemented by scholarly observations by Harris, Simon and Clayton (2005) and Faraday, Overton, and Cooper (2011) arguments that instructors need to employ a variety of new teaching techniques to develop VET skills. These include work-based learning, which could involve coaching, mentoring, industry release and work shadowing; as well as participating in networks and communities for practice. These studies observe networks with other VET institutions and the industry encourage exchange of information, ideas, techniques, approaches and tools between VET practitioners and also provide a mechanism for providers to interact with and obtain feedback from their clients. Specifically, no sampled YP had created any training networks with other YPs or vocational centres or industries in the region.

On the other hand, from questionnaire responses by informants at Don Bosco YP, one trainee wrote the following explanation about carpentry/joinery instructional practice experiences:

*During practicals the instructor ensures each trainee is practicing a specific skill. We practice a certain skill in groups of 4 trainees. This arrangement allows trainees to jump from one skill to
the next under the guidance of the instructor. This is possible due to availability of training tools and consumable materials (written response by carpentry trainee, March 2013).

These were written responses by a trainee exuding confidence on the level of practice they were receiving through guidance of their instructors. In this connection Fisher, (2008); Petty, (2009) and Faraday (2011) observe that teachers prompt, question, facilitate, or lead learners through tasks that increase their understanding of the content. To consolidate their understanding of the content, learners need opportunities to solve, discuss, negotiate, and think with their peers. Hence learners synthesise information, transform ideas, and solidify understanding of skills taught.

In a multi response question item in a questionnaire, the researcher sought trainees’ views on major constraints they faced during practical lessons. The respondents’ views were analysed and tabulated according to trade areas as shown in Tables (4.11, 4.12 and 4.13).

4.11.3 Masonry practicals

From Table 4.11, some 34.7% (24) trainees had constraints in laying tiles on a floor or wall to plane level. They explained that the difficulty was ensuring that tiles were in a line without bending up or down or sideways and without trapped air bubbles there in. Besides, 30.4% (21) trainees wrote they faced difficulties to attain smooth curve without breaking building blocks when tasked to chisel curved patterns on them. However, they were proficient in cutting a stone linearly.

<table>
<thead>
<tr>
<th>Skills</th>
<th>Difficult experienced</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laying of tiles on a floor/wall</td>
<td>Attaining a level surface with no air bubbles enclosed by tiles.</td>
<td>24</td>
<td>34.7</td>
</tr>
<tr>
<td>Tracing and cutting along a curved line</td>
<td>Cutting curved stone edges and surfaces smoothly without breaking</td>
<td>21</td>
<td>30.4</td>
</tr>
<tr>
<td>Concreting molds on building block joints</td>
<td>Making and curing molds on a stone wall to smooth finish.</td>
<td>14</td>
<td>20.8</td>
</tr>
</tbody>
</table>

N=69 **Source:** Data obtained from masonry trainees during field inquiry, 2013.
The third challenging area was making and curing molds on stone walls as explained by 20.8% (14) trainees. Through check listing, the researcher observed and documented status about finished molds made on a stone wall by Vyulya masonry trainees (annex IV-K). The molds were neat and of good quality, indicating a trainee had attained proficiency in this skill. Towards this end RGB (2010) and Faraday (2011) observe that experiential, activity-based learning was the norm in Britain VET schools; although there was no direct reference by teachers to any particular theory of experiential learning. Moreover, they argued that too much teaching and learning was mediocre and emphasis was required on meeting individuals’ needs through suitable teaching methods.

On the other hand, majority trainees while answering an open ended question item on practical lesson experiences in a questionnaire wrote the following sentiments:

*During practicals we refer to diagrams in training manuals for things like brick making, cutting and molding wall joints. Some tools are worn out and broken. I wait for my colleagues to finish and use the tools (written response by masonry trainee, March, 2013).*

Although trainees were supposed to carry on with practice as instructor demonstrates, inadequacy of training tools delayed some trainees from practicing there and then. They had to wait for their colleagues to finish working and later used their tools. This had some negative implications on trainees’ skills acquisition; although with practice they could catch up.

### 4.11.4 Tailoring practicals

Table 4.12 presents tailoring trainees’ responses on difficulties they experienced during practice lessons which show some, 26.5% (39) informants faced constraints in measuring curved edges of a cloth, cutting smoothly with scissors, and hemming a cloth.
Further, 21.7% (32) of the informants wrote that they faced challenges in knitting flower patterns using singer machine following a pencil/chalk drawing on a cloth. Despite this challenge, some trainees had gained proficiency in tailoring and made smoothly finished attires like aprons.

<table>
<thead>
<tr>
<th>Skills</th>
<th>Difficult experienced</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cutting and hemming along curved line.</td>
<td>Measuring a curved edge of a cloth, cutting smoothly with scissors, and hemming.</td>
<td>39</td>
<td>26.5</td>
</tr>
<tr>
<td>Knitting different flower patterns.</td>
<td>Knitting flower patterns using singer machine following a pencil drawing on a cloth.</td>
<td>32</td>
<td>21.7</td>
</tr>
</tbody>
</table>

*Source:* Data obtained from tailoring trainees during field inquiry, 2013.

Through check listing of readymade cloths, the researcher observed and documented status of an apron made by Nkubu YP trainees. The blue apron was well finished, had smooth and lean edges fitted with well spaced blue buttons that buttoned with ease (annex IV:-J). They explained these tasks required more practice and flexibility when exercising specific tailoring skills. In this regard Faraday, (2011) argues that while there is evidence of good practice within vocational education, it is clearly not universal, as evidenced from inspection; so there is considerable scope for identifying, disseminating and sharing good practice and for further development as a means of improvement. Moreover studies by Kamalawati, (2012) asserts that teaching models are not yet established in vocational learning, but the whole concept of teaching models could provide a new element in vocational teaching at YPs. Research evidence shows that learners’ attainment could be enhanced by the consistent use of teaching models.

### 4.11.5 Carpentry/joinery practicals

Sampled trainees in carpentry/joinery trade provided their written responses on challenges they experienced during practice lessons as analysed and tabulated in Table 4.13.
The statistics in this Table show that 42.6% (29) carpentry trainees had challenges in measuring curved edges and surfaces using tape measure and a saw to cut out timber in a smooth curved line.

**Table 4.13: Trainees views on difficulties experienced in carpentry/joinery practicals**

<table>
<thead>
<tr>
<th>Skills</th>
<th>Difficulty experienced</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracing and cutting</td>
<td>Measuring and cutting curved edges and surfaces</td>
<td>29</td>
<td>42.6</td>
</tr>
<tr>
<td>Making dove-tail joints</td>
<td>Cutting dove-tail joints without breaking</td>
<td>24</td>
<td>35.2</td>
</tr>
<tr>
<td>Working along a curved line</td>
<td>Cutting/hemming along a smooth curved line</td>
<td>23</td>
<td>33.8</td>
</tr>
<tr>
<td>Making a Table top</td>
<td>Plane timber manually at required gauge.</td>
<td>13</td>
<td>19.1</td>
</tr>
</tbody>
</table>

N=68  **Source:** Data obtained from carpentry/joinery trainees during field inquiry, 2013.

Despite few difficulties encountered by these trainees, majority had acquired right skills and proficiencies in their trade as depicted by annex IV:-L showing a coffee table made by carpentry/joinery students at St. Joseph’s YP. The Table was smoothly finished as an indicator of proficiency in furniture making skills acquired by trainees. Besides, 35.2% (24) trainees observed that they experienced constraints in making dove-tail joints. Such difficulties were attributed to poor sawing skills and lack of enough practice. Moreover, 19.1% (13) informants said that they had difficulties in plane timber manually at required gauge. Thus, trainees need guidance and to be corrected where they go wrong during practical lessons.

While there is evidence of good and poor practice within specific sampled trades, it is clearly not universal, as evidenced with interviews and FGD during field inquiries. So, there is considerable scope for identifying, disseminating and sharing good practice among instructors instructing different trades and for further development as a means of improvement of trainees’ proficiency skills. Hence, Markovic and Axmann (2006) argue that teachers can plan, carry out and evaluate lessons in such a way that joint solutions can be found with the students instead of answering questions that have been answered hundreds of times by generations of students; hence moving from a lecturer towards a moderator of learning.
In conclusion the made building blocks and dressed stones by masonry trainees were satisfactory as most of the made blocks were cuboids in shape with smooth and tough surfaces and edges. Some 34.7% trainees had constraints in laying tiles on a floor or wall to plane level. The difficult part was ensuring tiles were in a line without bending up or down or sideways and without trapped air bubbles there in. However, they were proficient in cutting a stone linearly. Some 26.5% trainees faced constraints in measuring curved edges of a cloth, cutting smoothly with scissors, and hemming a cloth. Despite this challenge, some trainees had gained proficiency in tailoring and made smoothly finished attires like aprons. However, some 42.6% carpentry trainees had challenges in measuring curved edges and surfaces using tape measure and a saw to cut out timber in a smooth curved line. Despite the few difficulties encountered by these trainees, majority had acquired the right skills and proficiencies in their trade.

4.12 Youth Polytechnics’ Workshops and other Physical Facilities

The fourth study question was: “What are the perceptions of youth polytechnics’ instructors and trainees about training equipment, tools and materials at their disposal as the necessary implements towards acquisition of vocational skills and knowledge?”

During formal interviews with SCYTO at Meru Central Sub County, the researcher inquired about specifications of a standard workshop and classroom at YPs. The SCYTO provided the information recorded in box 1. Therefore, the researcher, with the assistance of two research assistants’ and by use of checklists based on standard specifications provided in box 1, documented observable conditions of training workshops (WKS) in sampled YPs as summarised in Table 4.14. Workshops meeting the following criteria were rated good: Required size of building (30 feet (ft) by 25ft square), permanent, fitted with required sizes of benches/cabinets and 21 stools. Status of floor: cemented, painted stone walls; roofing status: tiles/iron sheets,
doors/windows: metallic and opening from outside and fitted with window panes; availability of fire extinguishers and well lit and aerated.

**Box 1: Standard specifications for a workshop and a classroom**

According to Ministry of public works and housing (2011), a standard class room should be 30 feet (ft) by 25ft square, with painted walls, cemented floor and fitted with 5 metallic: windows measuring approximately 4ft high by 6ft width with transparent window panes and a door 7ft long and 3ft wide. A chalkboard approximately 1½ m wide by 3 m long fitted onto the front wall adjacent to the door. The doors and windows should open from outside for safety purposes. The room should be well aerated, lit and fitted with a fire extinguisher. There should be 20 lockable desks for students and a teacher’s table.

A standard workshop (carpentry, masonry and tailoring) should be 75ft long by 30 ft wide stone building. The benches are usually wooden whose lengths are between 8ft to 11.2ft by 5ft wide and 1 metre high from the floor. The benches are fitted along the workshop wall, leaving enough space for trainees’ movement and safety purposes. Benches are fitted with labeled lockable cabinets with tools kept as per level of use and ease of retrieval. A chalkboard approximately 1½ m wide by 3 m long is fitted onto the wall. There are 21 stools for trainees and instructor; an instructor preparation room (16m²) fitted with a chair, table and a cabinet for keeping inventory records. There should be 3 shelved rooms approximately 16m² for storing finished projects, projects in progress and consumable materials. Safety measures include first aid kit, fire extinguishers (carbon dioxide foam); door opening towards outside and wide windows without grills and opening towards the outside. The room should be well lit and ventilated.

*Source: Formal interviews with SCYTO Meru Central Sub County during field inquiry, 2013.*

On the other hand, the workshops meriting the following criteria were rated fair: - lacking actual size of permanent building and fitted with some benches, cabinets and some stools and chairs.

Status of floor: - concrete slab but not cemented, stone plastered walls and not painted. Roofing status: - iron sheets, doors/windows: - wooden (opening from outside) and painted; 1 or 2 fire extinguishers and fairly lit and aerated. Finally, those physical facilities depicting the following observations were rated poor. These were: ordinary semi-permanent building with few tables,
and no cabinet tools, few chairs, and earth floor. Wooden walls not painted, doors opening from inside, wooden windows, no fire extinguishers and poorly lit. Table 4.14 shows that workshops were categorised as permanent and semi-permanent; conditions, number of cabinets present and ratio of workshops to trainees.

Table 4.14: Observed conditions of training workshops in sampled YPs

<table>
<thead>
<tr>
<th>YP</th>
<th>Total No of WS in a YP</th>
<th>WS for 2nd year trainees</th>
<th>Student/WS ratio</th>
<th>Status of WS</th>
<th>Conditions of WS</th>
<th>No. of Cabinets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don Bosco*</td>
<td>5</td>
<td>3</td>
<td>49:3</td>
<td>P</td>
<td>Good</td>
<td>6</td>
</tr>
<tr>
<td>Iriamurai</td>
<td>2</td>
<td>1</td>
<td>17:1</td>
<td>P</td>
<td>Poor</td>
<td>2</td>
</tr>
<tr>
<td>Siakago</td>
<td>2</td>
<td>1</td>
<td>14:1</td>
<td>1-SP</td>
<td>Poor</td>
<td>1</td>
</tr>
<tr>
<td>Vyulya</td>
<td>3</td>
<td>2</td>
<td>30:2</td>
<td>P</td>
<td>Fair</td>
<td>5</td>
</tr>
<tr>
<td>Nkubu</td>
<td>3</td>
<td>2</td>
<td>46:2</td>
<td>P</td>
<td>Good</td>
<td>5</td>
</tr>
<tr>
<td>Kaanani*</td>
<td>2</td>
<td>1</td>
<td>13:1</td>
<td>1-SP</td>
<td>Poor</td>
<td>1</td>
</tr>
<tr>
<td>Gitugu</td>
<td>2</td>
<td>1</td>
<td>18:1</td>
<td>1-SP</td>
<td>Poor</td>
<td>-</td>
</tr>
<tr>
<td>Kyemutheke</td>
<td>2</td>
<td>1</td>
<td>17:1</td>
<td>P</td>
<td>Fair</td>
<td>1</td>
</tr>
<tr>
<td>St. Joseph’s</td>
<td>3</td>
<td>2</td>
<td>45:2</td>
<td>Pt</td>
<td>Good</td>
<td>7</td>
</tr>
<tr>
<td>Uhuru</td>
<td>2</td>
<td>1</td>
<td>6:1</td>
<td>P</td>
<td>Poor</td>
<td>-</td>
</tr>
<tr>
<td>Nazareth*</td>
<td>2</td>
<td>1</td>
<td>23:1</td>
<td>1-SP</td>
<td>Poor</td>
<td>-</td>
</tr>
</tbody>
</table>

Key: P:- permanent; SP:- semi-permanent; WS:- workshop/s

Source: Data obtained during field inquiry, 2013. * Private YPs

7 YPs (Nazareth, Gitugu, Kaanani and Kyemutheke; Siakago, Iriamurai and Uhuru) had a semi-permanent/permanent structure with second year student/workshop ratios of 23:1, 18:1, 13:1 and 17:1, 14:1, 17:1 and 6:1 respectively. This meant one room was used as workshop for 2 or 3 trades, making instructional practice to be conducted in shifts. Thus, only Don Bosco YP met the required ratio of 20 trainees per workshop in the 3 trades. However, Don Bosco, Nkubu, Vyulya and St. Josephs YPs had 5, 3, 3, and 3 permanent workshops with second year student/workshop ratios of 49:3, 30:2, 46:2 and 45:2 respectively. Moreover, at Kyemutheke, Iriamurai, Siakago and Gitugu YPs masonry practicals were conducted outside in the open due to lack of a workshop. From Table 4.18 the 3 workshops at Don Bosco YP were rated good because they
measured approximately 75ft by 30ft square with standard benches fitted with cabinets, cemented floors, plastered and painted walls. They had corrugated iron sheet roofs, metallic door and windows fitted with panes and opened from outside. Workshops had 21 stools and first aid kits/fire extinguishers were fixed at accessible points on the wall. On the other hand, the 2 workshops at Kyemutheke YP were rated fair because they were permanent structures measuring approximately 30ft by 25ft, plastered floor and walls, wooden windows and doors, wooden benches, stools for trainees present and a first aid kit. Besides, the 1 workshop at Gitugu YP was rated poor because it was a small semi-permanent wooden building with earth floor, few tables used as benches, wooden doors and windows with some trainees sharing stools. There were no tools cabinets or first aid kit or fire extinguishers present.

Some sampled YPs lacked masonry workshops although few lacked carpentry/joinery and tailoring workshops and a classroom served as a workshop. However, during interviews sampled instructors explained that masonry trade housed few tools that could be kept in a store while trainees do practicals outside. They attributed this to preferences given workshops for trades like carpentry and tailoring because of the many delicate tools they house. One instructor at Kyemutheke YP observed that:

Masonry practicals are carried out under a tree. However, during rainy seasons there are challenges of postponing lessons. In reality, the trade business is usually conducted in the outside (personal communication with Instructor, April 2013).

Thus, workshops in most sampled YPs were in dire need of workshop space so as to provide opportunity for adequate vocational training. More workshops could avert the challenges of postponing classes.

Through checklists administered by two research assistants, the status of physical facilities (classrooms, library and staffroom) were observed and recorded. The general conditions, (GC)
were the assessed overall suitability of physical facilities during field inquiry based on the following criteria about status of the floor: cemented, wall: stone/plastered and painted, ceiling: timber/plywood, windows: metallic/painted and fitted with windowpanes; roof: tiles/ corrugated iron sheets and doors: metallic and painted, lighting: well lit and aerated were rated good. These descriptions show that at Don Bosco YP physical facilities were in good condition as prescribed by MoYAs and Ministry of Public Works (2012) as documented in Table 4.15.

<table>
<thead>
<tr>
<th>Youth polytechnic</th>
<th>Classrooms</th>
<th>Library</th>
<th>Staffroom</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>GC</td>
<td>No</td>
</tr>
<tr>
<td>Don Bosco*</td>
<td>6</td>
<td>good</td>
<td>1</td>
</tr>
<tr>
<td>Iriamurai</td>
<td>4</td>
<td>poor</td>
<td>-</td>
</tr>
<tr>
<td>Siakago</td>
<td>3</td>
<td>fair</td>
<td>-</td>
</tr>
<tr>
<td>Vyulya</td>
<td>5</td>
<td>good</td>
<td>1</td>
</tr>
<tr>
<td>Nkubu</td>
<td>6</td>
<td>good</td>
<td>-</td>
</tr>
<tr>
<td>Kaanani*</td>
<td>2</td>
<td>fair</td>
<td>-</td>
</tr>
<tr>
<td>Gitugu</td>
<td>3</td>
<td>poor</td>
<td>-</td>
</tr>
<tr>
<td>Kyemutheke</td>
<td>2</td>
<td>fair</td>
<td>-</td>
</tr>
<tr>
<td>St. Joseph’s</td>
<td>4</td>
<td>good</td>
<td>1</td>
</tr>
<tr>
<td>Uhuru</td>
<td>4</td>
<td>poor</td>
<td>-</td>
</tr>
<tr>
<td>Nazareth*</td>
<td>3</td>
<td>fair</td>
<td>-</td>
</tr>
</tbody>
</table>

**Key:** GC: general condition; (-) means absent

**Source:** Data obtained during field inquiry, 2013.

The physical facilities with concrete slab floor but not cemented, wall: - stone and plastered but not painted, ceiling: absent, windows: metallic not painted and fitted with wire mesh/timber; roof: - corrugated iron sheets and doors: wooden not painted, and fairly lit were rated fair. On the other hand facilities with earth and dusty floor, wall: not plastered/timber, ceiling: absent, windows: wooden and not painted; roof: rusty iron sheet/thatch and doors: wooden and not painted, and poorly lit were rated poor. Although Vyulya YP had a library, it was stocked with old story books and craft textbooks. The library was small, poorly lit and lacked capacity to accommodate a sizeable number of trainees and was rated fair. Siakago, Nazareth, Gitugu, Uhuru and Kaanani YPs did not have a staffroom for instructors where they would prepare
lessons. Some instructors, through formal interviews with the researcher, lamented that they prepared their lessons at home. On the whole, one instructor gave the following sentiments:

We do not have instructors’ preparation room. I prepare my work in my house.
It is worse when preparing for examinations which are sensitive documents (personal communication with an instructor-Gitugu YP, March, 2013).

Absence of preparatory rooms demotivated instructors. Further, classes at Kanaani YP had worn out floors with corrugated iron sheet walls. In the afternoons the rooms were so warm to allow effective learning to take place. These findings complimented observations by (MoHEST, 2005) which documented that some of the equipment/tools and facilities in YPs were outdated and not compatible with modern technology as they were acquired in 1970’s and 1980’s through development assistance by partner countries such as Japan, Canada, Germany and Italy.

In summary, the study concluded that at Kyemutheke, Iriamurai, Siakago and Gitugu YPs masonry practicals were conducted outside in the open or under a tree due to lack of a workshop. Don Bosco YP physical facilities were in good condition as prescribed by MoYAS (202) and Ministry of Public Works (2012). Siakago, Nazareth, Gitugu, Uhuru and Kaanani YPs did not have a staffroom for instructors where they would prepare lessons. This had negative effects on VET instructional delivery mechanisms.

4.12.1 Training tools and equipment

The Machakos SCYTO in an interview with the researcher about YPs physical facilities, tools and equipment used for training asserted that the recommended practice was:

A standard workshop is 30ft by 75ft per trade per year of study. A trainee is entitled to all tools except in special circumstances where 5 or 20 trainees share a machine like wheelbarrow or concrete mixture (personal communication with SCYTO April, 2013).
From SCYTO's clarifications, the ratio of trainee/workshop/tools is 20:1:1. Otherwise, trainee/workshop/equipment ratio is 20:1:5. In order to ascertain whether these recommended practices were enforced by sampled YPs, the researcher sought views of trainees in a multiple response question in a questionnaire about sampled training tools, equipment and other learning materials in their trades. Their responses were analysed and tabulated in Tables 4.16, 4.17 and 4.18.

4.12.2 Masonry trade trainees/tools ratios

Out of 42 tools/equipment recommended for masonry trade (annex IV:-M) in NITA (2013), the researcher simple randomly sampled 11 items and computed second year student/tools ratios presented in Table 4.16. The ratios in Table 4.16 show that only mason’s trowels and hammers had ratios of 1:1.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Tool/equipment</th>
<th>Recommended student/tool ratio</th>
<th>Computed student/tool ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mason’s trowels</td>
<td>1:1</td>
<td>1:1</td>
</tr>
<tr>
<td>2</td>
<td>Mason’s hammers</td>
<td>1:1</td>
<td>1:1</td>
</tr>
<tr>
<td>3</td>
<td>Cold chisels</td>
<td>2:1</td>
<td>5:1</td>
</tr>
<tr>
<td>4</td>
<td>Bolsters</td>
<td>1:1</td>
<td>4:1</td>
</tr>
<tr>
<td>5</td>
<td>Safety goggles</td>
<td>1:1</td>
<td>8:1</td>
</tr>
<tr>
<td>6</td>
<td>Jointers</td>
<td>1:1</td>
<td>3:1</td>
</tr>
<tr>
<td>7</td>
<td>Concrete mixer/grinder</td>
<td>20:1</td>
<td>20:1 or none</td>
</tr>
<tr>
<td>8</td>
<td>Cowley level / Block master</td>
<td>20:1</td>
<td>20:1 or none</td>
</tr>
<tr>
<td>9</td>
<td>Wheelbarrows</td>
<td>5:1</td>
<td>10:1</td>
</tr>
<tr>
<td>10</td>
<td>Training manuals</td>
<td>1:1</td>
<td>3:1</td>
</tr>
<tr>
<td>11</td>
<td>Drills</td>
<td>2:1</td>
<td>1:5</td>
</tr>
<tr>
<td>12</td>
<td>Consumable training materials</td>
<td>1:1</td>
<td>2:1</td>
</tr>
</tbody>
</table>

**Source:** Annex IV:-M, 2013

Cold chisels and safety goggles had student/tool ratio of 5:1 and 8:1 as opposed to recommended requirements of 2:1 and 1:1 respectively. Thus, in absence of enough tools, trainees did more theory as opposed to practice since some time was wasted sharing tools during lessons. Besides
majority of the sampled YPs had manually driven tools except Don Bosco and St. Joseph’s which had some automated equipment such as concrete mixer, wood machines and hand drills.

4.12.3 Tailoring trade trainees/tools ratios

The researcher simple randomly sampled 10 tailoring tools from 26 training tools and equipment (annex IV:-N) recommended by NITA (2011), and computed second year trainee/tools ratios as tabulated in Table 4.17. It shows that while recommended student/tool ratio in iron and ironing board, French curves/paint brush and point turner/metre rule were 1:1, 2:1 and 2:1 respectively, the computed students/tools ratios were 3:1, 5:1 and 3:1 respectively.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Tool/equipment</th>
<th>Recommended student/tool ratio</th>
<th>Computed average student/tool ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sewing machines</td>
<td>1:1</td>
<td>1:1</td>
</tr>
<tr>
<td>2</td>
<td>Scissors</td>
<td>1:1</td>
<td>1:1</td>
</tr>
<tr>
<td>3</td>
<td>Pins and needles</td>
<td>1:1</td>
<td>1:1</td>
</tr>
<tr>
<td>4</td>
<td>Iron and ironing board</td>
<td>1:1</td>
<td>3:1</td>
</tr>
<tr>
<td>5</td>
<td>Pressing cloth</td>
<td>1:1</td>
<td>2:1</td>
</tr>
<tr>
<td>6</td>
<td>Point turner/metre rule</td>
<td>2:1</td>
<td>3:1</td>
</tr>
<tr>
<td>7</td>
<td>French curves/paintbrush</td>
<td>2:1</td>
<td>5:1</td>
</tr>
<tr>
<td>8</td>
<td>Sewing gauges</td>
<td>1:1</td>
<td>1:1</td>
</tr>
<tr>
<td>9</td>
<td>Sewing rotary cutting mats</td>
<td>2:1</td>
<td>2:1</td>
</tr>
<tr>
<td>10</td>
<td>Training manuals</td>
<td>1:1</td>
<td>1:1</td>
</tr>
<tr>
<td>11</td>
<td>Consumable materials</td>
<td>1:1</td>
<td>2:1</td>
</tr>
</tbody>
</table>

**Source:** Annex IV:-N, 2013

This meant that most of all these tools were shared among students. Such sharing of tools by students disrupts smooth running of practical lessons and inhibits acquisition of skills taught to trainees. However, out of 11 sampled YPs only Nkubu, St. Josephs and Don Bosco YPs had one automated sewing machine that was used for demonstration purposes. The instructors explained that such machines were expensive to buy. In this respect (UNESCO-UNEVOC, 2010 and Achieng, 2012) observe that learners are able to grasp better explanation if they are demonstrated using available resources. Besides, an experience sharing workshop in Ouagadougou Burkina
Faso in 2007 noted that the major problems that should be solved in technical and vocational institutions in Africa included obsolete infrastructure and teaching aids and absence of or little relation with job market.

The instructors, during formal interviews with the researcher, explained that tailoring guidelines required each trainee to have a sewing machine so as to carry out required practices. A tailoring instructor at Kyemutheke YP explaining about automated sewing machine noted that:

A good model of automated sewing machine costs between Ksh.50,000 and 70,000. With few trainees, an institution cannot afford to buy one. However, out of 9 manually operated singers, only five are in good condition (personal communication with instructor, March 2013).

Therefore, affordability of automated training tools, equipment and consumable materials were perceived as hindrances to vocational training at YPs. Besides, survey data from youth polytechnic trainees, graduates and employers, identify important skills gaps as the capacity of YP graduates to use modern machines, equipment/tools, trade knowledge and practical exposure to the world of work (Balwanz, 2012).

4.12.4 Carpentry/joinery trainees trade/tools ratios
Out of 64 carpentry tools and equipment (annex IV:-P) recommended in NITA (2013), 13 items were randomly selected for analysis based on trainees’ responses on whether a tool was shared by trainees during training or not as tabulated in Table 4.18. Findings in this table show that computed student/tool ratio of 1:1 in drawing boards, marking gauges and G clamps as established at Don Bosco, Nkubu and St. Joseph’s YPs. This gave trainees a good chance to practice with tools adequately during practical lessons. While the carpentry/joinery syllabus required a trainee to have direct access to 8 different types of planes and beveled chisels, some of the sampled YPs (Kaanani, Vyulya and Kyemutheke) recorded student/tool ratios of 2:1 and 3:1
respectively. That means 3 or 2 trainees shared a plane or beveled chisel which led to time wasting during practice lessons.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Tool/equipment</th>
<th>Recommended student /tool ratio</th>
<th>Computed student / tool ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Planes</td>
<td>1:8</td>
<td>2:1</td>
</tr>
<tr>
<td>2</td>
<td>Beveled chisels</td>
<td>1:8</td>
<td>3:1</td>
</tr>
<tr>
<td>3</td>
<td>Firmer chisels</td>
<td>1:5</td>
<td>3:1</td>
</tr>
<tr>
<td>4</td>
<td>Mortise chisels</td>
<td>1:5</td>
<td>2:1</td>
</tr>
<tr>
<td>5</td>
<td>Hand saws</td>
<td>1:1</td>
<td>2:1</td>
</tr>
<tr>
<td>6</td>
<td>Saw files</td>
<td>1:7</td>
<td>5:1</td>
</tr>
<tr>
<td>7</td>
<td>G clamps</td>
<td>1:3</td>
<td>1:1</td>
</tr>
<tr>
<td>8</td>
<td>Marking gauge.</td>
<td>1:1</td>
<td>1:1</td>
</tr>
<tr>
<td>9</td>
<td>Auger bits</td>
<td>1:6</td>
<td>1:2</td>
</tr>
<tr>
<td>10</td>
<td>Screw drivers’/drills</td>
<td>1:3</td>
<td>1:2</td>
</tr>
<tr>
<td>11</td>
<td>Bench vices</td>
<td>1:1</td>
<td>2:1</td>
</tr>
<tr>
<td>12</td>
<td>Drawing boards</td>
<td>1:1</td>
<td>1:1</td>
</tr>
<tr>
<td>13</td>
<td>Wood machines</td>
<td>20:9</td>
<td>20:1 or no machine</td>
</tr>
<tr>
<td>14</td>
<td>Training manuals</td>
<td>1:1</td>
<td>2:1</td>
</tr>
<tr>
<td>15</td>
<td>Consumable materials</td>
<td>1:1</td>
<td>4:1</td>
</tr>
</tbody>
</table>

Source: annex IV:-P, 2013

In order to beef up these data, the researcher, during formal interviews with instructors, sought further explanations on the level of existing tools and equipment that were functional at YPs. In response, an instructor informant at Vyulya YP explained that:

An NGO called VETCH provided us with two computers and several training tools: a brick making machine, consumable materials in masonry, carpentry and tailoring. During practicals, trainees work in groups of twos (Personal communication with carpentry instructor, March 2013).

Further, the researcher during formal interviews with the manager at Don Bosco YP, inquired about the status of masonry, carpentry and tailoring tools/equipment. The manager observed that:

This youth polytechnic is sponsored by friends of Don Bosco in Italy. Some equipment are automated machines. They receive good maintenance. When need arises, we call technicians from industrial area in Nairobi to repair them. Otherwise, we buy new training gadgets depending on training needs (personal communication with manager at Don Bosco YP, March 2013).
Thus, in the presence of adequate tools and equipment instructors could give instructions to trainees with confidence and carry out relevant demonstrations and practicals. However, during formal interviews with instructors, majority of them lamented that due to high costs, YPs could not afford to acquire some important tools. Specifically they observed that:

Sewing machines (threadle and electric) in tailoring, ratchet screw machines and wood working machines in carpentry/joinery and block master, concrete mixers and sledge hammers in masonry were required in large quantities that translate to be expensive. These include, safety goggles and jointers; chisels: beveled, firmer and mortise; auger bits and French curves (personal communication with instructors, March 2013).

These deficiencies in training tools/equipment affect trainees in acquiring specific skills, knowledge and competences relevant in the field of work. In supporting these findings, Nyerere (2009) lamented that under-investment in skills training for institutions such as YPs had resulted in lack of physical infrastructure, workshops and tools leading to low quality of education which is not synchronised with labour market or local livelihoods requirements. In this regard, Achieng (2012) in a study in Maranda Division of Siaya County documented that 42.1% trainee respondents rated workshops as adequate in enhancing learning yet 10.5% rated them very poor. Thus, workshops were in dire need of improvement so as to support adequate training.

In conclusion, the study found out that there were some important tools/equipment that some YPs could not afford to buy due to financial handicaps; for example, electric/ threadle singers and various types of electric wooden machines. Few YPs employed automated tools especially wood machines in carpentry. Thus, failure to expose trainees to automated tools/equipment they were likely to use in the world of work was challenging to trainees’ in acquiring the right skills.
4.12.5

**Instructors views on instructional implementation and information communication technology (ICT)**

The researcher, during formal interviews with instructors, sought to find out whether they engaged ICT as a teaching component or not. By use of a checklist, the researcher ascertained the number of computers availed to instructors in workshops for use in instructional implementation. The YPs of Don Bosco, Uhuru and Vyulya had each a single desktop computer kept in the YP manager’s office. Although some instructors confessed having some knowledge in MS ward they did not utilise ICT in giving instructions due to lack of ICT facilities. During interviews with instructors at Vyulya YP, one informant had the following observations:

> Although the YP offers ICT courses to outsiders for income generating project, none of the computers is availed to instructors for use in teaching (personal communication with instructor at Vyulya YP, March, 2013).

These were sentiments of instructors lamenting about lack of ICT facilities at YP. From NITA (2011) tailoring and NITA (2013) Carpentry/Joinery and masonry assessment guidelines document analysis; it was evident that the syllabus was silent about issues of ICT.

The researcher, during formal interviews with sampled instructors sought their views about employability of ICT during instructional implementation. Some instructors observed that YPs were encouraged by the parent Ministry (MoYAS) to introduce ICT alongside other support subjects taught to all trainees during the first year of study. The informants’ views analysed and presented in Figure 4.7 show that majority 93.1% (41) and 90.9% (40) of the informants reported that they were ICT illiterate and YPs lacked computer facilities respectively. Thus, only 6.8% (3) of sampled instructors had some knowledge about ICT but could not utilise it due to unavailability of computers. Thus, skills in ICT had not been embraced by both trainees and instructors as an enabler in enhancing skills acquisition by YP trainees.
However, when asked to explain the status of employing ICT in giving instructions, Vyulya YP manager during formal interviews with the researcher observed that:

Our trainees were taught basic computer packages during first year. Such knowledge is not tested in trade areas. The ICT instructor was a BOM employee. The rest of instructors are not ICT literate. Only 3 computers were used by trainees (personal conversation with manager March, 2013).

Thus, few computer packages were taught to trainees at Vyulya YP in first year. These findings did not agree with (UNESCO, 2002) report which addressed the issues of ICT in all the Barbados Island’s schools such as hardware, software and networking infrastructure which included overhead projectors, scanners and digital cameras. Further, each classroom had an instructor’s media centre, consisting of a television, a video cassette recorder and an electronic whiteboard which enhanced curriculum implementation. Besides, Buntat, et.al (2010) argues that changes occur in technology in helping instructors deliver instructions to students. These changes are important to VET programmes in supporting workforce development. Besides, Phiri, (2010) in studies about TVET in Botswana observed that there was much use of ICT services, such as Internet and computer-based tutorials. Moreover, ICT has rapidly transformed the lives

Figure 4.7: Instructors views about instructional implementation and ICT at YPs

Source: Data obtained from instructors during field inquiry, 2013.
of youth who use ICT tools for entertainment, social networking, seeking and creating jobs, gathering information or communicating their interests to government/actors (UNESCO, 2010, and Muthee, 2010).

Thus, in summary some instructors observed that YPs were encouraged by the parent ministry (MoYAS), to introduce ICT alongside other support subjects taught to all trainees during the first year of study. However, only 6.8% of sampled instructors had some knowledge about ICT but could not utilise it due to unavailability of computers.

4.12.6 Trainees perceptions about teaching instructions and ICT

The researcher through trainees’ questionnaire sought informants’ opinions about trades’ instructional implementation using basic computer packages such as Microsoft (MS): Word, Excel, Access, and Power point.

![Figure 4.8: Trainees views about teaching instructions and ICT at YPs](Image)

**Figure 4.8: Trainees views about teaching instructions and ICT at YPs**

*Source: Data obtained from trainees during field inquiry, 2013.*

The informants’ written data that were categorised, analysed and presented in Figure 4.8 show that majority 76.4% (217) and 71.8% (204) respondents were not exposed to computer knowledge and ICT knowledge was not examined in the trades exams respectively. Some 40.8% (116) informants wrote that no computers were available for them to train. Thus, trainees in some sampled YPs were supposed to be introduced to basic computer packages which they were
not. This was due to lack of ICT facilities and instructors. These findings contrasted sharply with Summak and Samancioglu, (2011) observations that the integration of ICT in Turkish VET schools was not an option but a necessity for making the education process more attractive. Thus, due to emergence of automated tools and machines, YPs training have to embrace ICT in giving instructions; otherwise, her graduates could be irrelevant in the job market. In this realisation, Buntat et al, (2010) agree that VET instructors must be able to use new technologies that are continually changing the ways people live, work, and learn.

4.12.7 Trainees performance in NITA examinations

Examinations are mostly a measure of trainees’ skills proficiency in their trades. Thus, holding other factors constant, assessment leads to actions that help instructor/s improve and adapt teaching methods that meet learner’s training needs. Thus, data from document analysis of 2012 NITA national examinations results, of sampled YPs tabulated in Table 4.19, show that Don Bosco, Nkubu and St. Joseph’s YPs had enrolled more than 10 trainees each and had a total of 11, 13 and 14 passes in carpentry/joinery, masonry and tailoring respectively.

<table>
<thead>
<tr>
<th>Table 4.19: Trainees performance in the sampled trade’s 2012 NITA examinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpentry/Joinery</td>
</tr>
<tr>
<td>P</td>
</tr>
<tr>
<td>Don Bosco*</td>
</tr>
<tr>
<td>Iriamurai</td>
</tr>
<tr>
<td>Siakago</td>
</tr>
<tr>
<td>Vyulya</td>
</tr>
<tr>
<td>Kaanani*</td>
</tr>
<tr>
<td>Kyemutheke</td>
</tr>
<tr>
<td>Nkubu</td>
</tr>
<tr>
<td>Gitugu</td>
</tr>
<tr>
<td>Nazareth*</td>
</tr>
<tr>
<td>Uhuru</td>
</tr>
<tr>
<td>St. Joseph’s*</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>%</td>
</tr>
</tbody>
</table>

**Key**: P-pass, F-fail, T-total

**Source**: Copy of NITA 2012 Examination results at sampled YPs
Besides, Nazareth, Vyulya, Gitugu, Siakago, Iriamurai and Kyemuthe registered 18, 20, 13, 15, 10 and 12 cumulative passes respectively despite small number of registered candidates. 2 candidates in carpentry/joinery at Iriamurai YP failed. This could be partly attributed to poor state of training tools, inadequate and unqualified instructors and trainees’ poor mastery of trade skills. This was partly attributed to trainees’ low KCPE performance. Overall there were 71.9% (64), 73.1% (57) and 78.9% (101) passes during 2012 NITA carpentry/joinery, masonry and tailoring examinations respectively, which is a good performance. However, there were 28.1% (25), 26.9% (21) and 21.1% (27) fail during 2012 NITA carpentry/joinery, masonry and tailoring examinations respectively. These fails almost mirror the challenges faced by instructors presented in Figure 4.10. During interviews with the carpentry/joinery instructor at Iriamurai YP, the instructor lamented that:

Last year carpentry class had 5 students, but 3 dropped out. They spent almost a term without a teacher. Besides, carpentry teachers employed by parents were on and off most of the time (personal communication with carpentry instructor, March 2013).

Thus, when trainees go for a long time without being taught they lose confidence in the course of training. Towards this end, (Phillips 2006, cited by Wheelahan and Moodie, 2011) argues that trust is based on confidence in teaching, learning processes, syllabi and assessment and not independently of these. For example, there was a collapse of trust in the Certificate IV Training and Assessment in Australia in part because of perceptions about delivery that was poor. In reinforcing these findings, the report of National Vocational Certificate Education and Training examinations released in March 2010 by MoYAS indicated that 58% of students who sat national carpentry test in 63 sampled YPs in Kenya failed; while 6% were given referrals (fwangari@ke.nationmedia.com:Daily Nation, April 2nd 2011:31). The report lamented that this
was mostly caused by a negative perception by class eight and form four leavers about YP vocational training.

4.12.8 Challenges facing instructors during instructional delivery

During formal interviews with instructors, they enumerated to the researcher constraints they faced while teaching theory and practical lessons. The informants’ analysed responses presented in Figure 4.9 show that some 47.7% (21) and 40.9% (18) respondents observed that teaching without enough training tool/equipment and trainees’ having English language difficulties in understanding vocational concepts respectively posed some challenges while teaching.

These difficulties forced instructors to use ‘Kiswahili’ language to explain some skills for trainees to understand. Moreover, 31.8% (14) instructors lamented that old and inadequate training manuals in trade content were some of the hindrances to adequate instructional delivery. In supporting these observations, an instructor at Nkubu YP, during interviews with the researcher, lamented that:

An instructor uses simplest languages including ‘Kiswahili’ to assist a trainee understand a concept. Some trainees are poor in solving arithmetic and geometry statement problems (personal communication with Instructor March, 2013).
Such challenges call for extra tutelage of a trainee to ensure they understand concepts taught. Thus, trainees could be taught arithmetic, geometry and English language as special lessons during first year. Furthermore, trainees at St. Joseph’s and Don Bosco YPs, while responding to questionnaire items on the challenges they experienced during instructional training in the workshop, wrote the following sentiments:

*Some of the tools and equipment we use are automated. We face few challenges related to understanding of some concepts in vocational practice and computations in geometry (St. Joseph’s and Don Bosco YPs Trainees written responses, March 2013).*

These sentiments by trainees could be attributed to the fact that Don Bosco and St. Joseph’s YPs had good training tools and equipment, some of which were automated. However, trainees were honest to acknowledge their weaknesses in English and numeracy skills. In this connection Ballarat (2003) cited by NCVER (2006) acknowledges diverse needs of VET practitioners and recommended that a range of products be developed, covering such topical areas as: language and literacy; catering for individual learner differences; teaching skills; supporting generic skills development; and design and modification of resources among others. This is perceived to minimise English language difficulty among trainees. Besides, DBSA (2011) asserted that the departments of education should increase learner success rates by providing needed resources to poorly resourced schools; improving the quality of teaching; and providing supplementary support to learners who perform poorly.

4.13 Trainees’ Career Prospects in their Trades of Specialisation

The fifth study question was: *What are the trainees’ career prospects in their respective trades of specialisation after completion of the two year certificate training period?* Sampled trainees’ views on career prospects were analysed, summarised and tabulated in Table 4.20. The analysis shows that 65.4% (186) and 35.9% (102) trainees opined seeking employment from factories and
companies among others; and changing career, like starting a kiosk, doing a course in motor vehicle driving respectively, could place them in a better position in the labour market.

### Table 4.20: Trainees views on their future prospects after completing training at YP

<table>
<thead>
<tr>
<th>Written Views</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seek employment in factories, construction companies, …. .</td>
<td>186</td>
<td>65.4</td>
</tr>
<tr>
<td>Work with vocationally trained workers</td>
<td>155</td>
<td>54.5</td>
</tr>
<tr>
<td>Seek youth funds from ministry of youth affairs to initiate business.</td>
<td>111</td>
<td>39.0</td>
</tr>
<tr>
<td>Seek to work with firm where I gained workplace experiences</td>
<td>107</td>
<td>37.6</td>
</tr>
<tr>
<td>Change career: start a kiosk, do a course in motor vehicle driving, …. .</td>
<td>102</td>
<td>35.9</td>
</tr>
<tr>
<td>Go back and study GTT II</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>N = 284</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source:* Data obtained from trainees during field inquiry, 2013.

However, the change of mind about career prospects by 35.9% (102) informants indicated that trainees thought the vocational training they were receiving at YPs was not marketable. Secondly, this number 35.9% (102) is almost equal to the number of trainee informants who elsewhere in this study (*sub section 4.4*) conceded that they were influenced by their parents to pursue vocational training. Thus, it could be concluded that the training they were receiving had failed to convince them to maintain their career path. Besides, trainees wrote on their views about a question on why they thought YPs were not preparing them adequately for the world of work. The informants’ responses shown in Figure 4.10 shows that majority of trainees 50.3%

![Figure 4.10: Trainees views why YPs were not preparing them for future prospects](source: Data obtained from trainees during field inquiry, 2013)
(162) and 42.6% (121) documented continued use of manually driven tools/equipment; and YPs reluctance to integrate ICT into trade subject matter respectively was working against smooth acquisition of vocational skills. A view by 27.8% (79) informants was failure by YPs to teach trainees ways of accessing financial credits as part of entrepreneurship.

In contrast, most trainees at Don Bosco YP had hope in their future prospects and wrote the following sentiments in their questionnaires:

i. *Don Bosco YP has made a name among industries in Nairobi and Ruiru and I’m looking forward to working with one of these industries in future.*

ii. *Since we train with good equipment and tools I hope to do well in the world of work when I complete my training.*

iii. *Given a task in my trade I can do it and finish well (written trainees responses, 2013).*

These trainees had confidence they were receiving adequate preparation to face the world of work. Some of them documented that by getting a start-up capital they would initiate their own business, meaning they would create employment rather than seek employment. In this respect, studies by UNESCO (2005) articulate the importance of preparing informed students who can make productive career choices based on understanding of their interests, skills and abilities and the employment areas to which these apply. Appropriate training can then be provided on the job or through in-service training (UNESCO, 2005). Accordingly, Kamalawati, (2012) explains that if VET is to create more entrepreneurs, then teaching approaches should give students practical exposure in a controlled environment. These include real-life activities outside the classroom.

In conclusion, the change of mind about career prospects by informants indicated that trainees thought the vocational training they were receiving at YPs was not marketable. Such trainees had not chosen the trades they trained in but were influenced by their parents and guardians to take them.
4.13.1 YP Instructors, managers, SCYTOs and DYT opinions on future prospects of trainees

The researcher conducted interviews with YP: instructors, managers; SCYTOs and DYT on the theme; ‘future prospects of YP trainees as they enter the world of work’. The informants’ opinions were grouped into specific categories, analysed and tabulated into Table 4.21.

Table 4.21: YP Instructors, managers, SCYTOs and DYT opinions on future prospects of trainees

<table>
<thead>
<tr>
<th>Views</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be employed by contractors, factories and construction institutions</td>
<td>39</td>
<td>65.0</td>
</tr>
<tr>
<td>Seek startup capital through youth funds</td>
<td>31</td>
<td>51.6</td>
</tr>
<tr>
<td>Join and work under working group of artisans</td>
<td>30</td>
<td>50.0</td>
</tr>
<tr>
<td>Advance vocational training to GTT: II, I, and upwards</td>
<td>19</td>
<td>31.1</td>
</tr>
<tr>
<td>Could join armed forces as a trade’s person during recruitments</td>
<td>12</td>
<td>19.6</td>
</tr>
</tbody>
</table>

N= 60  
Source: Data from key informants during field inquiry, 2013.

The tabulations show that 65.0% (39) and 51.6% (31) respondents perceived that leavers could be employed by business contractors, factories and construction institutions; and seek start-up capital from government youth fund respectively. Such capital could be used to buy tools, rent a business house, and procure materials to initiate business. This is because of government policy shift to initiate massive projects in rural areas through CDF (construction of hospitals, dispensaries, schools, bridges, rural roads development projects and others), youth fund among others could absorb some of masonry and carpentry/joinery YP leavers. However, some 19 (31.1%) respondents opined that trainees could continue with training to earn GTT II. This could enhance learners’ skill proficiencies as they enter into the world of work.

In connection to these findings, during focus group discussions, the sampled parents and BOM members’ provided their opinions on the prospects of trainees as they exit into the community.
Their analysed responses presented in Figure 4.11 shows that majority of informants 77.2% (102) and 61.3% (81) opined that YP leavers could get contracts with local institutions (schools and dispensaries) and access youth funds as a start-up capital to initiate business respectively. Further, 50.7% (67) and 14.3% (19) informants said that leavers could continue with training to become trainers of trainers and join armed forces during recruitment respectively.

In this regard Sharma, (1999a and 2008) argues that in Fiji the status of TVET amongst students, parents, teachers and the wider community is low in comparison to that of academic studies and this affects its uptake and acceptance. Therefore, TVET is perceived by majority of its stakeholders as a ‘second class’ option and by some as a temporary diversion from the main route to higher education and modern sector employment. Hence any innovation seen in this light has a remote chance of successful implementation.

4.14 Strategies for Improving Instructional Delivery at Youth Polytechnics
The sixth study question was: What appropriate strategies would be employed to improve instructional delivery mechanisms in youth polytechnics?
4.14.1 Trainees’ views on improving training at YPs

Trainees’ suggestions on improving training at YPs appended in questionnaires were analysed and presented in Figure 4.12. The analysis shows that majority 59.1% (168) of the trainees suggested that enough training tools and consumable materials be provided.

Secondly, 46.1% (131) respondents suggested providing automated training tools and equipment. Further, provision of enough training consumable materials was supported by 40.8% (116) respondents. Making attachment of trainees’ compulsory was supported by 38.3% (109) informants while 35.5% (101) respondents opined that the government should improve on subsidised YP training fund. In this connection, Nyerere (2009) laments that under-investment in skills training at YPs has resulted in lack of physical infrastructure and tools leading to inadequate training not synchronised with current labour market requirements. Thus graduates from VET institutions tend to get excluded from the world of work because they lack productive skills. Core values and attitudes which translate into positive work ethics are also lacking as they

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate tools and materials</td>
<td>59.10%</td>
</tr>
<tr>
<td>Provide automated tools</td>
<td>46.10%</td>
</tr>
<tr>
<td>Improve subsidized fee</td>
<td>35.50%</td>
</tr>
<tr>
<td>Providing updated training manuals</td>
<td>43.00%</td>
</tr>
<tr>
<td>Building enough workshops</td>
<td>41.90%</td>
</tr>
<tr>
<td>Making attachment compulsory</td>
<td>38.30%</td>
</tr>
<tr>
<td>Making ICT part of training</td>
<td>40.80%</td>
</tr>
</tbody>
</table>

Source: Data obtained from trainees during field inquiry, 2013.

Secondly, 46.1% (131) respondents suggested providing automated training tools and equipment. Further, provision of enough training consumable materials was supported by 40.8% (116) respondents. Making attachment of trainees’ compulsory was supported by 38.3% (109) informants while 35.5% (101) respondents opined that the government should improve on subsidised YP training fund. In this connection, Nyerere (2009) laments that under-investment in skills training at YPs has resulted in lack of physical infrastructure and tools leading to inadequate training not synchronised with current labour market requirements. Thus graduates from VET institutions tend to get excluded from the world of work because they lack productive skills. Core values and attitudes which translate into positive work ethics are also lacking as they
tend to be given passing recognition within the institutional setting, an issue policy formulators should address.

4.14.2 Views of instructors, YP managers, SCYTOs, DYT, BOM and parents on alleviating shortages of instructors at YPs

During interviews with sampled instructors, YP Managers, SCYTOs and DYT; and focus group discussions with BOM and parents, the researcher documented the following views on alleviating shortages of instructors at YPs that were analysed and tabulated in Table 4.20. The statistics in Table 4.22 show that 71.8% (138) and 65.6% (126) of the informants opined that constituencies set up YP financing kitty and government put up a scheme of service for YP instructors respectively.

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constituencies to set up YP financing kitty</td>
<td>138</td>
<td>71.8%</td>
</tr>
<tr>
<td>The government to introduce a scheme of service for YP instructors</td>
<td>126</td>
<td>65.6%</td>
</tr>
<tr>
<td>Remunerate instructors like their counterparts in the public service</td>
<td>117</td>
<td>60.9%</td>
</tr>
<tr>
<td>County governments to employ trained instructors</td>
<td>115</td>
<td>59.8%</td>
</tr>
<tr>
<td>Instructors to upgrade skills through institutional based programmes</td>
<td>114</td>
<td>59.3%</td>
</tr>
<tr>
<td>BOM to involve instructors in selecting and setting up IGU</td>
<td>109</td>
<td>56.7%</td>
</tr>
<tr>
<td>Utilising instructors/trainees labour at a fee to generate income</td>
<td>88</td>
<td>45.8%</td>
</tr>
<tr>
<td>Sourcing for qualified instructors whenever a vacancy arises</td>
<td>77</td>
<td>40.1%</td>
</tr>
<tr>
<td>Initiating viable projects such as dairy and poultry keeping</td>
<td>53</td>
<td>27.6%</td>
</tr>
<tr>
<td><strong>N = 192</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source:* Data obtained from respondents during field inquiry, 2013.

However, 45.8% (88), 40.1% (77) and 27.6% (53) informants perceived that utilising trainees and instructors qualified labour force; sourcing for qualified instructors and initiating viable projects such as poultry keeping would partly alleviate shortage of instructors at YPs respectively. The findings concur with (Kennedy, 2012) observations that lack of: instructor preparation, inservice programmes and difficulty in recruiting qualified instructors was the greatest challenge facing vocational education in Africa. Hence without proper human resources, even the best designed organisation with necessary plans and equipment cannot achieve its
performance potential. Moreover, Gloria and Efajemue, (2011) observe that TVET is an important educational necessity to propel technological aptitudes and inventions. The researchers concluded that 80% of the respondents agreed that lack of participatory framework, poor planning and lack of capacity building were some of the threats to quality vocational instructor education. Furthermore, poor remuneration of instructors results to demotivated workers who lack seriousness at the workplace.

4.14.3 Instructors views on improving YPs training

Through formal interviews with the researcher the instructors provided views of improving vocational training at YPs.

The informants’ suggestions presented in Figure 4.13 show 77.2% (34) opined that YPs were in dire need of workshops, modern tools and equipment. Provision of consumable materials and adequate facilities, tools and equipment would enable instructors and trainees carry out desired practicals in workshops. Inclusion of ICT component as part of trades taught at YPs was echoed by 65.9% (29) of the informants. Besides, an instructor at Don Bosco YP during interviews with the researcher reported that:
ICT has become a way of thinking, working and communication. It is important that vocational training institutions embrace this approach of training now; otherwise YP training will soon become obsolete as new technology continues to stream in (personal communication with instructor, March 2013).

Some 45.4% (20) and 34.0% (15) informants suggested that trainees’ attend a 3 month compulsory workplace attachment and YPs review training programmes by involving community stakeholders.

In conclusion, Provision of consumable materials and adequate facilities, tools and equipment would enable instructors and trainees carry out desired practicals in workshops.

4.14.4 YP managers, SCYTOs and DYT views on improving vocational training at YPs

In order to clarify issues on improving vocational training at YPs, during formal interviews with YP managers, SCYTOs and DYT resource persons, the researcher sought their views on ways of improving vocational training at YPs. Their responses were analysed and tabulated in Table 4.21 which shows that 16 respondents suggested that ICT be made a compulsory subject in VET curricula. This is because ICT knowledge had taken lead in every sphere of learning and knowledge development. For example most of the training tools and equipment are automated and therefore require knowledge of ICT to utilize them effectively.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Frequency</th>
<th>Ordering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make ICT compulsory in vocational training curriculum.</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>Review Training guidelines to match ILO training requirements.</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>County governments to streamline vocational training policy.</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>Introduce modular training curriculum.</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>Develop trades tailored to community needs.</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Strengthening bursary provisions for trainees.</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Establish industry/YP linkages.</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Introduce entrepreneurship and innovative training in all trades.</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Establishment of model YPs in every electoral ward.</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

N = 16  
Source: Data obtained from respondents during field inquiry, 2013.

Secondly, 14 informants opined that reviewing training guidelines to match ILO training requirements with policy framework would specifically address the degenerating vocational
training needs at YPs. Moreover, 11 and 8 informants suggested introducing entrepreneurship and innovative topics in all trades and establishment of model YPs in every ward respectively. In this regard, findings by the 2013 World Development Report and 2012 EFA Global Monitoring Report identified expanding and improving youth skills development as a critical priority for reducing youth unemployment and strengthening the economies of lower-middle income countries (World Bank 2012a; UNESCO 2012). For example, several recent presidential campaigns in Uganda, Kenya, Ghana and Conferences (ADEA 2008 and ADEA 2012) evidence the pressure on governments to expand access to and improve the quality and relevance of post-basic education and training. Moreover, the “skills for jobs” construct hypothesizes that increases in skills will help address youth employment challenges and promote economic growth, employment and self-employment in the informal sector (Parris, 2002; World Bank 2012a; UNESCO 2012).

4.14.5 Employment and remuneration of instructors

During field inquiry, the researcher through assistance of sampled YP managers and instructors documented their background information about: academic and professional qualifications, remunerations and other incentives. These are discussed under the following themes as follows.

4.14.5.1 Academic and professional background of instructors

Through analysis of documents containing instructors’ profiles provided by sampled YP managers, the researcher documented instructors’ background information on academic and professional qualifications. This data was supplemented by information volunteered by YP managers during formal interviews with the researcher.
The analysed data tabulated in Table 4.24 shows that 6.81% (3) and 27.27% (12) instructors had Higher National Diploma (H Dip.) and diploma in technical education with academic qualifications in Kenya Certificate of Education (KCE) and Kenya Certificate in Secondary Education respectively (KCSE). These were qualified to teach at YPs. Further, there were: 20 instructors with craft certificate and 9 grade trade test certificates qualifications with academic qualifications in Certificate of Primary Education (CPE), KCE, and KCSE and Kenya Certificate of Primary Education (KCPE). This means majority of the instructors 65.89% (29) were certificate holders and lacked in subject content mastery and pedagogical knowledge required to teach at YPs. Although this cadre of instructors continued giving instructions at YPs, they required to upgrade their skills. In supporting these findings, Balwanz (2012) observed that a survey carried out by MoYAS in 2012 identified generally low qualifications of YP instructors and limited amount of modern equipment as critical constraints to meeting skills development objectives in Kenya. Besides, UNESCO (2010) claims that the quality of TVET teaching has a direct bearing on sustainable development in that poorly acquired skills cannot be value adding. It also pointed out that those fields of study where unqualified trainers could be found are the construction trades, craft trades and industrial programmes.

From document analysis of bio-data records of sampled instructors availed by YP managers, the researcher extracted and analysed data about instructors employers presented in Table 4.25

<table>
<thead>
<tr>
<th>Academic</th>
<th>Total</th>
<th>%</th>
<th>Professional Trade areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>KCE</td>
<td>3</td>
<td>6.81%</td>
<td>Higher national Diploma in Technical education management</td>
</tr>
<tr>
<td>KCSE</td>
<td>12</td>
<td>27.27%</td>
<td>Diploma in Technical education</td>
</tr>
<tr>
<td>KCSE</td>
<td>10</td>
<td>22.72%</td>
<td>Craft certificate</td>
</tr>
<tr>
<td>KCE</td>
<td>10</td>
<td>22.72%</td>
<td>Craft certificate</td>
</tr>
<tr>
<td>KCPE</td>
<td>5</td>
<td>11.36%</td>
<td>Grade trade test I or II</td>
</tr>
<tr>
<td>CPE</td>
<td>4</td>
<td>9.09%</td>
<td>Grade trade test I or II</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Source: - Field data obtained from YPs’ managers’ offices, 2013.
which shows that BOM instructors/trainees ratios were 13:68, 9:69 and 11:147 in carpentry, masonry and tailoring respectively against the recommended instructors/trainees ratios of 3:20 per trade. Thus majority instructors at YPs were employed by BOM. This meant most of the training levies collected by YPs went into servicing the instructors’ salaries. On the other hand the computed PSC instructors/trainees ratios per trade were 1:17, 1:23 and 3:147 compared to recommended ratio of 3:20.

<table>
<thead>
<tr>
<th>Employer</th>
<th>Calculated instructors/trainees ratio per trade</th>
<th>Recommended instructors/trainees ratio per trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board of Management (BOM)</td>
<td>13:68</td>
<td>3:20</td>
</tr>
<tr>
<td></td>
<td>9:69</td>
<td>3:20</td>
</tr>
<tr>
<td></td>
<td>11:147</td>
<td>3:20</td>
</tr>
<tr>
<td>Public Service Commission (PSC)</td>
<td>1:17</td>
<td>3:20</td>
</tr>
<tr>
<td></td>
<td>1:23</td>
<td>3:20</td>
</tr>
<tr>
<td></td>
<td>3:147</td>
<td>3:20</td>
</tr>
</tbody>
</table>

**Key:** M:- masonry, C:- carpentry/joinery, T:- tailoring  
**Source:** - Field data statistics from sampled YPs, 2013.

This means instructors employed by PSC were fewer than those employed by BOM. This situation could compromise training at YPs because BOM instructors were on temporary employment and could vacate the job at the slightest opportunity. In enriching this data, the SCYTO at Meru Central Sub County, during formal interviews with the researcher observed that:

Ministry of Youth Affairs and Sports regulations on youth polytechnics staffing are that each trade be taught by two instructors, one in first year and the other in second year provided trainees do not exceed 20 per class. However, in most YPs one instructor teaches a trade to both first and second years. Besides two additional instructors teach support subjects of communication skills, entrepreneurship and technical drawing (personal communication with SCYTO, April 2013).

Therefore the recommended trainees/instructor ratio is 20:3. Thus, based on data of sampled instructors in each YP and total number of second year trainees enrolled in the three trades provided by respective YP managers, trainees/instructor ratios were computed as tabulated in Table 4.26. The findings show that while Don Bosco, Nkubu and St. Joseph’s YPs had second
year trainees/instructor ratios of 49:5, 46:5 and 45:5 respectively; the rest of sampled YPs had low ratios such as Uhuru YP with 12:4. However, majority of these YPs had low second year trainee (18) enrollments with as few instructors as 3 (Gitugu YP) teaching 3 trades. Hence from the recommended trainees/instructor ratio of 20:3 per trade, it appears that all sampled YPs were understaffed although majority of YPs were poorly enrolled. On the contrary trainees had close attention with their instructors during instructions due to low enrolments per class.

However, the close contacts between trainees and majority instructors when teaching were undermined by instructors’ lack of professional qualifications and sometimes fatigue due to high workload. Based on these observations, it is clear that 11 YPs with 3 trades each requiring 3 instructors needed a total of 99 instructors. So the 3 second year trades were understaffed on average by (55.5%) 45. This had negative implications on the way trainees were taught vocational skills because instructors were overworked and sometimes taught subject areas in which they had no prior training.

Table 4.26: Second year trainees/instructor ratio in the sampled trades in 11 YPs

<table>
<thead>
<tr>
<th>Youth Polytechnic</th>
<th>Trainees</th>
<th>Instructors</th>
<th>Trainees/Instructor ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don Bosco*</td>
<td>49</td>
<td>5</td>
<td>49:5</td>
</tr>
<tr>
<td>Iriamurai</td>
<td>17</td>
<td>3</td>
<td>17:3</td>
</tr>
<tr>
<td>Siakago</td>
<td>14</td>
<td>4</td>
<td>14:4</td>
</tr>
<tr>
<td>Vyulya</td>
<td>30</td>
<td>5</td>
<td>30:5</td>
</tr>
<tr>
<td>Kaanani*</td>
<td>13</td>
<td>3</td>
<td>13:3</td>
</tr>
<tr>
<td>Kyemutheke</td>
<td>17</td>
<td>4</td>
<td>17:4</td>
</tr>
<tr>
<td>Nkubu</td>
<td>46</td>
<td>5</td>
<td>46:5</td>
</tr>
<tr>
<td>Gitugu</td>
<td>18</td>
<td>3</td>
<td>18:3</td>
</tr>
<tr>
<td>Nazareth*</td>
<td>23</td>
<td>3</td>
<td>23:3</td>
</tr>
<tr>
<td>Uhuru</td>
<td>12</td>
<td>4</td>
<td>12:4</td>
</tr>
<tr>
<td>St. Joseph’s*</td>
<td>45</td>
<td>5</td>
<td>45:5</td>
</tr>
</tbody>
</table>

Source: Field data obtained from YPs’ managers’ offices, 2013.
4.14.5.2 Instructors’ remunerations and other incentives

Closely related to instructional implementation is instructor’s remuneration and other incentives they receive from their employers. The researcher, in an interview with instructors’, sought their views on their remunerations. The informants’ views statistics in Table 4.27 show that in public YPs the lowest paid BOM instructors earned a monthly salary of less than half compared to monthly salaries of their counterparts in the same grade and scale in private YPs. The researcher found out that public YP BOM instructors earned monthly salaries ranging from Ksh. 3,000 to Ksh. 6,000 compared to their counterparts’ in some private YPs monthly salaries ranging between Ksh 7,000 to Ksh. 10,000.

<table>
<thead>
<tr>
<th>Trade qualification</th>
<th>Scale</th>
<th>Public YPs</th>
<th>Instructors</th>
<th>Private YPs</th>
<th>Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>H Dip.</td>
<td>K</td>
<td>30,000</td>
<td>1</td>
<td>32,500</td>
<td>2</td>
</tr>
<tr>
<td>Diploma</td>
<td>H</td>
<td>19,323</td>
<td>6</td>
<td>18,000</td>
<td>6</td>
</tr>
<tr>
<td>KCSE Craft</td>
<td>Craft</td>
<td>17,150</td>
<td>8</td>
<td>15,000</td>
<td>2</td>
</tr>
<tr>
<td>KCE Craft</td>
<td>Craft</td>
<td>17,150</td>
<td>8</td>
<td>15,000</td>
<td>2</td>
</tr>
<tr>
<td>GTT I</td>
<td>BOM I</td>
<td>6,000</td>
<td>1</td>
<td>10,000</td>
<td>1</td>
</tr>
<tr>
<td>GTT II</td>
<td>BOM II</td>
<td>3,000</td>
<td>4</td>
<td>7000</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>28</td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Field inquiry data from YP instructors and managers, 2013.

Informants explained that this depended on the financial ability of YPs to pay. However, as earlier discussed (*see subsection 4.7*) the YPs suffered poor trainee enrolments, which was the main source of financing through fees. Besides, government pegged funding of subsidised YP training (SYPT) of Ksh. 5000 per trainee in public YPs. Thus, YPs were funded depending on trainees’ enrolments. Some private YPs offered better remuneration at maximum of 32,500 shillings as compared to public YPs’ of 30,000 shillings as tabulated in Table 4.27. This is because some private YPs had to attract and retain instructors for the institution to survive in the vocational training market.
The researcher, in an interview with sampled instructors inquired about their length of time in years they had served with respective YPs. Figure 4.14 is a pie chart showing that majority 32% (14) and 27% (12) of the instructors had served their YPs for over 10 years and less than 1 year respectively. Some 18% instructors had served between 1 year and less than 2 years.

During interviews with the researcher some of those who had served less than a year in their current stations by then had the following sentiments:

Given a better paying job than the current one I would not hesitate to leave. I wanted to build a career where my pay could support my daily basic needs and those of my family (personal communication with YP instructors, March 2013).

These sentiments indicate that some instructors were not settled because of poor pay they received at their work stations. Therefore, confronted with a slightest opportunity, one would leave their current employer. However, some instructors who had served for over ten years had the following observations:

For now I am settled here, however if new opportunities in my career path come my way with good salary on permanent terms of employment I can go (personal communication with YP instructors, March 2013).

These sentiments show that despite the fact that some YP instructors had served their YPs for over 10 years, they would leave for greener pastures when confronted with such opportunities.
Moreover, the researcher in an interview with manager at Siakago YP inquired about the rate of staff turnover. The informant explained the following:

Since I joined this youth polytechnic many board of management employed instructors have been joining and leaving any time of the term (personal communication with manager, March 2013).

The manager attributed the high rate of staff turnover to instructors’ poor pay and lack of incentives to hold them on the job.

Through formal interviews with the researcher, the sampled instructors provided their views on incentives they got besides monthly salaries as presented in Figure 4.15. Majority 63.6% (28) and 61.3% (27) informants said they were provided with lunch and tea, where they sometimes cost shared with YPs and were given intrinsic moral support to be productive at work respectively. Some 29.5% (13) and 18.1% (8) instructors said they were promised to gain from viable income generating projects where they would participate and were sponsored to attend vocational seminars and workshops organised locally respectively.

![Figure 4.15: Sampled instructors views on incentives they received at YPs](image)

**Source:** Data obtained from instructors, 2013.
Some 15.9% (7) instructors from private YPs said they were paid 1 or 2 annual increments above a PSC salary entry point and were sometimes offered a day trip respectively. The incentives offered instructors depended on the financial ability of each YP in its effort to motivating her members of teaching staff.

During formal interviews with sampled YP managers, the researcher inquired whether instructors received other incentives apart from monthly salaries. In response, the manager Iriamurai YP gave the following sentiments:

We encourage instructors and promise them to get a share when they start viable income generating units. However, the agriculture greenhouse tomato project ended up with huge losses. This is because of poor supervision occasioned by inadequate number of instructors in this YP. We had to pay for supply of water on weekly basis, only to realize minimal harvest. Right now we have employed two instructors in masonry and carpentry. Every term we lose one or two instructors because the youth polytechnic has no capacity to pay well (personal communication with YP Manager, 2013).

Shortage of instructors inhibits trainees from receiving trade instructions. Otherwise employment of instructors by BOM should be taken as a short-term measure to close existing teacher gaps. Furthermore, the manager at Nkubu YP had the following sentiments on salaries and incentives given to instructors at Nkubu YP:

I ensure staff salaries are not delayed beyond the 15th day of subsequent month. When it is difficult to pay on time I inform them. Sometimes we delay paying for goods procured on credit and pay our staff. This way we have retained most of our instructors. The YP offers them annual increments as per labour laws. We offer moral support and YP cost-shares with them to provide tea and lunches when we have savings. We are developing production units’ policy so that instructors can partly benefit from a project where they engage their skills (personal communication with YP manager, 2013).

Thus, Nkubu YP managed to retain her BOM instructors on job through regular monthly payments and annual salary increments besides other subsidiary incentives. Further, Don Bosco YP manager gave the following sentiments on ways the YP motivated her instructors.
The youth polytechnic pays her staff every end month. We pay them 1 or 2 annual increments above PSC salary scales according to their qualifications. The instructors are provided with free tea and lunch during working days. Sometimes, the youth polytechnic management offers instructors a day trip to national parks or hotels for purposes of bonding at the end of the year. This way we have managed to attract and retain qualified instructors. There has been no staff turnover in the last two years due to good working relations (personal communication with YP Manager, 2013).

Don Bosco YP has retained all her staff due to good salaries and few incentives offered by management. These incentives motivated instructors to be dedicated in their work. On the other hand, during formal interviews with Uhuru YP manager on remuneration and incentives offered to instructors, the manager observed that:

We have challenges of retaining the 2 BOM instructors because of poor pay and sometimes they go without salaries for few months. The trainees’ population is low and what they pay is not enough to meet training expenses. We pay instructors when trainees pay fees mostly at beginning of a term or when SYPT is paid by MOYAS or a windfall from CDF. The YP is in need of 2 more instructors but we cannot afford to hire now. The only ‘incentive’ the YP gives them is lunch because here we get enough food donations from non-governmental organisations and government food reliefs (personal communication with YP Manager, 2013).

Thus, Uhuru YP, like other poorly enrolled YPs, faced various challenges in paying BOM instructors and retaining existing staff besides attracting new instructors. This institution had no capacity to give her instructors any meaningful incentives due to poor financial base. On the other hand, during formal interviews with St. Joseph’s YP manager, he gave the following views on ways instructors at St. Joseph’s were given incentives besides the monthly salaries:

We pay instructors monthly salaries commensurate to PSC salary scales subject to their qualifications. The instructors are provided with subsidised lunch during working days. We also pay for them to attend seminars and workshops organised by the parent Ministry of Youth Affairs and Sports. We pay their National Social Security Fund (NSSF) dues monthly (personal communication with YP Manager, 2013).
It is these few incentives besides monthly salaries given to instructors at St. Joseph’s YP that motivated instructors to continue working with the institution. However, these findings agree with ILO (2013) observations that there was increasing use of short-term contracts, with reduced pay and benefits in relation to regular teachers. Such employment conditions were in line with the structural adjustment strategies promoted by international financial institutions namely seeking to reduce public spending. A further analysis by Uwaifo and Uwaifo (2009) revealed that highly skilled vocational and technical education teachers are snatched by industries, which pay good salaries leaving few ones in the teaching profession that are grossly inadequate. This makes for most schools employing mediocre: artisans and technicians to man most sensitive subjects and the result of their product is unimaginable.

However, both sets of instructors confronted with better job opportunities they would take them immediately. This is because of poor state of employment at these YPs. The study documented that some 63.6% and 61.3% of the instructors were provided with lunch and tea, where they sometimes cost shared with respective YPs. At private YPs some instructors were paid 1 or 2 annual increments above a PSC salary entry point and were sometimes offered a day’s outing to local hotels. Some YPs paid for instructors to attend seminars and workshops organised by the parent ministry of Youth Affairs and Sports; and had registered her instructors with National Social Security Fund (NSSF). The incentives offered to instructors depended on the financial ability of the sampled YP.

4.14.6 Trainees’ workplace experiences
Programmes in vocational training have a job attachment component intended to expose trainees to practical work; however, NITA syllabi (2013) is silent on this. From data analysis in trainees’ questionnaires, about workplace experiences, only St. Josephs and Don Bosco YPs attached their
trainees. Second year trainees at Don Bosco YP were attached in construction industries in Ruiru and Nairobi such as coffee milling industries. On the other hand, St. Joseph’s YP attached her trainees in construction workplaces in Isiolo, Nanyuki and Meru regions (tea and coffee factories and school uniform and garment tailoring shops like Meru Uniforms in Meru town) for three months. The trainees explained attachés learnt practically to balance formal knowledge and workplace procedures; and the need to develop generic skills that were common across different vocational areas; and how they could be translated into actionable skills with right tools.

Trainees from other sampled YPs wrote that they were required to personally seek for workplace attachment during school holidays, something majority of them did not take seriously. These ad-hoc arrangements do not favour students on practical attachment because they are often treated as the labour force rather than as students receiving work-based practical experiences in need of guidance and tutelage. Such trainees find constraints later to enter into work relations with established workshops because many workplaces ask for simple work experiences. Moreover, during different formal interviews with the researcher, instructors at Nkubu, Vylia, and Iriamurai; Siakago, Kaanani, Uhuru and Gitugu YPs observed that:

We advise trainees to seek workplace experiences over school holidays in nearby workshops (personal communication with instructors, April 2013).

But, instructors at Nazareth and Kyemutheke YPs observed that due to financial handicaps, they do not think of workplace attachment although the parent ministry insists on sending trainees for workplace attachment. They reported that they encouraged their trainees to constantly visit workplaces within the locality over school holidays to try and gain some skills experiences there. On the other hand, trainees’ responses to question items in a questionnaire on importance of workplace attachment were analysed and presented in Figure 4.16. The analysis shows that some
41.9% (117) and 37.6% (107) trainees felt that workplace attachment was likely to improve on work interpersonal relations, complement theory and practical work taught in class respectively.

Further, 32.7% (93) and 26% (74) respondents wrote that workplace attachment could expose trainees to industrial work set-up where they can practice with automated equipment respectively. However, during formal interviews with the researcher about workplace attachment, an instructor at Don Bosco YP observed that:

Our trainees are attached in light industries at Ruiru town and Nairobi city. We have established good links with some industries. However, some workshops are reluctant to accept trainees for placement because they think the level of technology in their workshops is too high for our trainees (personal communication with carpentry instructor, March 2013).

It is clear that securing workplaces for trainees requires YPs to build links with established workplaces because trainees gain both in practice and in social learning experiences. In this regard UNESCO (2010) and Murithi (2013) argue that, workplace attachment in VET promotes the ability to recognise and use opportunities for sustainable action at the workplace.

Figure 4.16: Sampled trainees views about workplace experiences

Source: Data obtained from trainees, 2013.
Furthermore, it enables people, as consumers, to take responsibility for other people and for the conservation of the environment.

### 4.14.7 Instructors’ views about their workplace experiences

Normal practices require instructors to undergo regular trade’s workplace experience on a short term basis. The researcher, during formal interviews with instructors and YP managers, sought whether instructors attended to workplace attachment or not. The informants’ views analysed and presented in Figure 4.17 show that majority 96.3% (53) and 81.8% (45) of the informants opined that financial inadequacy and no linkages established between YP and specific workplaces respectively were the biggest hindrance to instructors’ attendance to workplace attachment.

<table>
<thead>
<tr>
<th>Inhibited by financial inadequacies</th>
<th>Attended few workshops and seminars</th>
<th>No established workplace linkages by YP</th>
<th>I read about workplace placement in the media</th>
<th>Have no workplace experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>96.30%</td>
<td>52.70%</td>
<td>81.80%</td>
<td>16.30%</td>
<td>80.00%</td>
</tr>
</tbody>
</table>

**Figure 4.17: Instructors’ and managers’ views about their workplace**

*Source: Data obtained from respondents during field inquiry, 2013.*

However, 52.7% (29) and 16.3% (9) informants said that they attended few workshops and seminars about VET skills competences organised by the parent ministry; and they read about workplace placement in the mass media respectively. Hence, failure by instructors to update...
knowledge through workplace attachment erodes their instructing ability. They continue relying on outdated information about trades’ subject matter.

In this regard, Sharma (1999a) and Sharma (2008) lamented that most vocational instructors in Fiji lacked workplace experience yet majority of instructors were unqualified in the areas in which they taught. This included about 42% in office technology, 44% in automotive engineering and 59% in carpentry and joinery. Moreover, these teachers had very little opportunity for regular up-skilling and industrial attachment. To this end, Kenya government TVET policy on workplace attachment says “the parent ministry shall constantly review and enforce minimum TVET trainers’ qualifications including compulsory industrial attachment for TVET trainers at least every three years of service” (RoK, 2012). The implementation of the policy is yet to be enforced. Moreover, it requires concerted effort of training institutions, workplace proprietors and the government to implement the policy to the fullest.

4.14.8 The YPs’ income generating units

During formal interviews with YP managers and instructors the researcher sought information about existence of income generating units (IGU) at YPs. The informants’ views and YPs projects documentary analysis revealed that some departments in YPs of: Don Bosco made money maker spare parts and concrete culverts/fencing posts; Nkubu made aprons on order and St. Joseph’s made furniture for sale. The instructors reported that such projects were worked out with the knowledge of trainees to enhance their skills competences. None of these YPs had policy guidelines governing those IGU. The rest of sampled YPs had either started computer training over the weekends or a small greenhouse for vegetable farming as an IGU which had failed to pick up. In this regard sampled instructors at Don Bosco YP reported that:
We make spare parts for coffee grinding mills and money maker machines for some industries at Ruiru and Nairobi besides concrete: culverts and fencing posts; office furniture and farming of cereals (maize and beans) (personal communication with instructor, March 2013).

Nkubu YP instructors reported that they made aprons and welded metallic goods such as doors and windows through external orders by hotels and local people. Instructors at St. Joseph’s YP explained that the institution made furniture and concrete building blocks for local sale. However, the respondents were in agreement that trainees benefited practically by working on IGU under close guidance of their instructors. Instructors observed that income generated under IGUs was used in maintenance of tools, buying consumable materials such as timber, glue, and thread and feeding trainees among other urgent expenses. Hence, training is a delicate process that requires a trainee to continuously perfect vocational skills through actual practice. Moreover, YPs could diversify their capacities in developing macro IGUs related to society, economy and environment. For example, bee keeping; poultry-rearing; pasture growing; horticulture; furniture-making; weaving; and salon services; planting seedlings for sale and making of biogas for cooking instead of firewood; and solid-waste management (MoYAS, 2008; MoYAS, 2009; Mwinzi and Kelemba 2009).

Therefore in conclusion, the study found out that some departments in YPs of Don Bosco made money maker spare parts and culverts/fencing posts. Nkubu YP made aprons on order and St. Joseph’s YP made furniture and concrete building blocks for sale. These constituted IGU that benefited both the YPs and trainees involved in project implementation. They assisted trainees to enhance their skills competences as they worked under close guidance of their instructors. However, none of these YPs had policy guidelines governing the management of IGUs. The rest
of sampled YPs had either started computer training over the weekends or a small greenhouse for vegetable farming as an IGU which failed to pick. Besides,

**Summary and Conclusions**

From demographic information of the study, it was found that the researcher interacted with majority of sampled informants who provided a rich mix data sought by this study. The study attained 73.95% questionnaire return rate from the sampled respondents. Further, more males than females (11.26%) enrolled in sampled YPs during the year 2012 with tailoring as the most popular trade with 51.76% of sampled trainees. Majority of trainees came from poor socio-economic backgrounds where parents/guardians were peasant farmers and operated small scale businesses within their locality whose incomes were meager. This posed challenges when paying for their children education at YPs.

Moreover, the study found out that none of the sampled YPs offered agriculture as a trade because YPs did not receive trainees requesting to train in agriculture. However, it was taught to all trainees as a support subject. Besides, 76.8% trainees studied masonry trade because of readily available construction opportunities in schools, churches, people’s homes, estates, bridges, and dispensaries among others in both urban and rural areas. Further, the study concluded that 91.8% trainees joined tailoring to seize opportunities in the clothing industry since people like fashionable clothes despite the challenges posed by (*mitumba*) cloths prevalence in local markets.

On curriculum implementation, the study concluded that while 2 out of 11 sampled YPs used NITA training guidelines, 9 YPs used KIE training guidelines. This was despite the many structural and content disparities inherent in both sets of syllabi where NITA syllabi had 9 more
topics as opposed to KIE syllabi. All the 44 instructor informants said they were not aware of ISCO 2008 vocational training standard guidelines. This was attributed to the fact that majority of the instructors were unqualified professionally and less informed about current VET practices.

The study found out that most YPs were in dire need of workshops, modern tools and equipment. Provision of these facilities would enable instructors and trainees carry out desired practicals in workshops. The study found out that majority of trainees did not go for work place attachment nor did any of the sampled instructors. Majority 78% respondents suggested that county governments set aside vocational training fund to cater for tuition, boarding and work placement of trainees. Further, 35.6% informants said YPs could initiate income generating projects such as poultry rearing that could serve as mini workplaces for trainees to enhance the vocational skills taught besides generating some income for YP. The study recommended that ICT be made part of trades content taught at YPs as opined by 65.9% informants and county governments establish model YPs in every ward.

On workplace experiences, the study concluded that majority of sampled YPs did not take trainees workplace experiences seriously. However, St. Joseph’s and Don Bosco YPs had elaborate systems of ensuring their trainees attended to workplaces in their locality and in some industries in Nairobi/ Ruiru respectively. Finally, none of the sampled YPs had their instructors undergoing workplaces experiences, which is contrary to current VET policy requirements. On IGU the study found out that some departments at of Don Bosco YP made money maker spare parts, culverts and fencing posts. YPs of Nkubu made aprons on order and St. Joseph’s made furniture and concrete building blocks for sale.
Finally, on trainees’ career prospects the study concluded that 65.4% of sampled trainees would seek employment from factories and get contracts with local institutions like schools and dispensaries; while 39.0% would seek youth funds from MoYAS to initiate business after completing YP training.

Therefore, these observations, opinions and views constituted the subject matter for summary, conclusions and recommendations in the final chapter of this study.
CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This chapter presents the basic concerns of the study from the major study findings and key recommendations that emerged from field data. The chapter also presents areas for further research. The purpose of this study as discussed in chapter one was to find out instructional needs and their use in pre-service training in polytechnics in MIEMCK. The study adopted a framework that conceptualised the implementation process of government policies on YP pre-service training on vocational education as resulting from the interaction of major aspects. The first aspect was the changing concept of an ‘ideal’ model YP in vocational training from the background of the context of indigenous education of Africans through the establishment and development of formal western British colonial era to the current practices at YPs. The second aspect was how on the basis of the YPs systems of ideals vocational training was supposed to be offered to train well equipped trainees with adequate skills to be versatile within the community. Lastly was the verification of functional relationships on the training tools/equipment, physical resources, consumable materials and instructors activities on instructional delivery to the trainees as prescribed in the curriculum against the actual practices in the YPs.

This was a survey research employing explorative approach on YP institutions for data collection and analysis by administering questionnaires, FGD, interview schedules, document analysis and checklists as research instruments. There were 8 public and 4 private YPs purposively sampled for the study from among 50 operational YPs in MIEMCK and registered with the government of Kenya. The survey research using explorative approach entailed subjecting selected case YP institutions to a detailed analysis of finding out the instructional methodologies employed by
instructors in giving instructions against the established norms in the VET artisan syllabi. Further, the existence of training tool/equipment, training manuals, consumable materials, enrolment records, trainees examination records were examined alongside the physical structures such as workshops, classrooms, library and staffrooms as these were perceived to play a major role during instructional delivery. Finally, the findings of the inquiry were about 6 study objectives and 6 research questions that were centred on finding out:

1. whether trainees, instructors as well as the community had faith in the purpose and functions of the YPs;
2. what ways curriculum implementation was carried out among youth polytechnics;
3. instructors’ and trainees’ perceptions about instructional methodologies used by YPs instructors in giving instructions;
4. instructors’ and trainees’ perceptions about training tools, equipment and materials at their disposal as the necessary implements towards acquisition of vocational skills and knowledge;
5. trainees career prospects within their trades of specialisation after completion of two year certificate training period
6. appropriate strategies that would help improve instructional delivery mechanisms in youth polytechnics;

5.2 Summary
From demographic information, the researcher interacted with majority of sampled informants who provided a rich mix data sought by the study that attained 73.95% rate of questionnaire returns from the sampled respondents. The study found out that more males than females (11.26%) enrolled in sampled YPs during the year 2012 with tailoring rated most popular trade
with 51.76% of sampled trainees. In summary, majority of the trainees came from poor socio-economic backgrounds where 53.1% and 15.6% parents/guardians practised peasant farming and simple businesses respectively within their locality whose incomes were meager. These parents faced challenges in paying for their children upkeep at YPs.

On the choice of trades by trainees the study found out that none of the sampled YPs offered agriculture as a trade because YPs did not receive trainees requesting to train in agriculture. However, agriculture was taught to all trainees as a support subject. This is an important course that should be trainees especially on modern methods of crop and animal farming. Besides, 76.8% of the trainees studied masonry trade because of readily available construction opportunities in schools, churches, people’s homes, estates, bridges, and dispensaries, among others in both urban and rural areas. Finally, the study concluded that 91.8% trainees joined tailoring to seize opportunities in the clothing industry since people like fashionable clothes despite the challenges posed by (mitumba) cloths prevalence in local markets. The findings showed that community members’ negative attitude towards vocational training discouraged youths from enrolling at YPs resulting to poor trainee enrollments per trade.

On trainees’ perceptions about overall status of their youth polytechnics, the study found out that almost an equal number of trainees (32.7% and 32%) rated their YPs very good and poor respectively. YPs rated poor lacked most of the training tools and facilities while those rated very good had adequate training facilities, tools, and instructors. This made training favourable.

The first study question sought whether trainees, instructors as well as the community had faith in the purpose and functions of the YPs. The study findings have shown that 72.8% trainees perceived key functions of YPs could be enhanced by adopting modular curricula which could accommodate trainees in need of vocational skills at different times in a year. Further, the study
concluded that 77.2% and 75% instructors perceived YPs had continued to supply vocationally trained personnel to community services and equipped youths with vocational skills for self or gainful employment respectively. Such personnel included tailors, carpenters and masons. On the contrary, the study found out that some 34% and 24.2% informants said communities’ negative attitude towards vocational training and that vocational training does not lead to promising career respectively made people dislike vocational training at YPs.

The second study question inquired on ways in which curriculum implementation was carried out among youth polytechnics. The study documented that 2 and 9 sampled YPs used NITA (official recommended syllabus) and KIE training guidelines respectively. This was despite the fact that NITA syllabi had 9 more topics as opposed to KIE syllabi. Both sets of syllabi lacked ICT component. This observation went against the reality in the labour market where automated machines and tools required such knowledge. All the 44 instructor informants said they were not aware of ISCO 2008 ILO vocational training standard guidelines. This was because majority of the instructors were unqualified professionally and less informed about current VET issues. The study documented that financial challenges and unqualified serving instructors were the biggest hindrance facing YPs training as observed by 87.1% parents/BOM. Besides, 82.5% respondents lamented that the state of inadequate training resources at YPs threatened the good course of VET at YPs. However, some 62.5% respondents’ agreed that YP trainees achieved skills competences despite difficulties experienced in financing of vocational education.

The third study question sought instructors’ and trainees’ perceptions about instructional methodologies used by youth polytechnics instructors in giving instructions. The study concluded that 79.9% trainees said instructors used demonstration method on certain skills during theory lessons and trainees later explained how those skills worked. Some 47.7% and
40.9% instructors observed that teaching without enough training tool/equipment and trainees’ having English language difficulties in understanding vocational concepts, respectively posed some challenges while teaching. These difficulties forced instructors to use ‘Kiswahili’ language to explain some vocational concepts and skills to trainees. However, few trainees had some difficulties to explain some vocational skill concepts, namely: cutting round edges of a timber, stone or garment; measuring small lengths and to plane curved edges among others.

On practical lessons, the study documented that 98.9% sampled trainees during practical exams did specific models and a project within a term. Specifically, the study found out that during practicals, some trainees shared tools while others waited for their colleagues to finish and get access to a specific tool/s. The study concluded that sharing of tools by students disrupted smooth running of practice lessons and inhibited acquisition of skills taught to trainees. In tailoring 21.7% trainees faced difficulties in knitting flower patterns using singer machine following pencil drawings on a cloth. The study found that in carpentry practicals, 42.6% trainees had challenges in measuring curved edges and surfaces using tape measure and a saw to cut out timber in a smooth curved line. However, majority trainees had acquired right skills and proficiencies in their trades.

On the other hand, the study found out that majority, 93.1% sampled instructors were illiterate in ICT and all sampled YPs lacked computer facilities for use by trainees and instructors. However, despite the challenges encountered during instructional delivery at sampled YPs the study found out that trainees did fairly well at NITA examinations with a pass rate of 71.9%, 73.1%, and 78.9% in carpentry/joinery, masonry and tailoring during 2012 NITA exams respectively.
The fourth study question sought instructors’ and trainees’ perceptions about training tools, equipment and materials at their disposal as the necessary implements towards acquisition of vocational skills and knowledge. The key study findings were that most sampled YPs were in dire need of workshops, modern tools and equipment. The study concluded that a standard workshop (carpentry, masonry and tailoring) should be a 75ft long by 30ft wide stone building with wooden benches whose lengths are between 8ft to 11.2ft by 5ft wide and 1 metre high above the floor. The study found that 7 out of 11 sampled YPs had semi-permanent/permanent workshops with second year student/workshop ratios of 23:1, 18:1, 13:1 and 17:1, 14:1, 17:1 and 6:1. However, 5 out of 11 sampled YPs did not have a staffroom for instructors where they would prepare lessons. This presented unpleasant learning and training environment.

Further, the study found out that due to financial handicaps YPs could not afford to buy tools/equipment such as electric/threadle singers and various types of electric wooden machines. From instructors’ background, the study documented that majority of the instructors 65.9% instructing at sampled YPs were certificate holders and therefore inadequate in subject content and pedagogical knowledge required in teaching GTT III certificate at YPs. Overall all sampled YPs were understaffed by 55.5%. On the other hand, the study documented that majority 81.81% (9) studied YPs did not take trainees workplace experiences seriously as part of training process. However, St. Joseph’s and Don Bosco YPs had elaborate systems of ensuring their trainees attended to workplaces in their locality and in some industries in Nairobi and Ruiru respectively. None of the sampled YPs had their instructors undergoing workplace experiences, which is contrary to current VET policy requirements. On IGU the study documented that Don Bosco YP made moneymaker spare parts of manually driven water pump and culverts/fencing
posts, while Nkubu YP, made aprons on order and St. Joseph’s made furniture and concrete building blocks for sale.

The fifth study question sought to establish from trainees’ about their career prospects within their trades of specialisation after completion of a two year certificate training period. The study key findings were that 65.4% of sampled trainees would seek employment from factories and get contracts with local institutions like schools and dispensaries; while 39.0% would seek youth funds from MoYAS to initiate business after completing YP training. On the other hand 35.9% trainees observed that they would change their career path to starting a kiosk and taking a course in motor vehicle driving that could place them in a better position in labour market.

The study documented that 65.0% and 51.6% managers, instructors, SCYTOs and DYT perceived that YP leavers could be employed by business contractors, factories and construction institutions; and seek start-up capital from government youth fund respectively. This is because of government policy shift to initiate massive projects in rural areas through Constituency Development Fund. “Uwezo” fund and Youth enterprise development fund among others. Some 77.2% and 61.3% parents and BOM opined that YP leavers could get contracts with local institutions (schools and dispensaries) and access government youth funds as a startup capital to initiate business respectively.

Finally, the sixth study question inquired about appropriate strategies that would help improve instructional delivery mechanisms in youth polytechnics. In response, the study documented that 59.1% trainees suggested provision of adequate training tools and consumable materials to improve training at YPs. Besides, 46.1% respondents suggested training with automated tools and equipment would improve instructional delivery at YPs. Similarly, the study found out that all the 11 sampled YP managers, 4 SCYTOs and the DYT suggested ICT be made a compulsory
subject in VET curricula. Further, majority 78% respondents suggested county governments set aside vocational training funds to cater for tuition, boarding and work placement attachment of trainees. Further, 35.6% of the informants said YPs initiate income generating projects such as poultry rearing that could serve as mini workplaces for trainees besides generating some income for YPs. The study recommended that ICT be made part of trades content taught at YPs as opined by 65.9% informants and county governments establish model YPs in every ward. The study documented that majority 65.89% instructors instructing at sampled YPs were certificate holders and inadequate in subject content and pedagogical knowledge required to teach GTT III.

In their suggestions to addressing the problem of inadequacy of instructors at YPs, some 71.8% and 65.6% informants recommended that constituencies set up YP financing kitty and that the government should come up with a scheme of service for YP instructors respectively. The study recommends that YPs come up with incentives of motivating instructors such as lunch, tea and field trips incentives where they sometimes cost shared with respective YPs besides monthly salaries.

5.3 Conclusions
This section presents the key findings in response to study questions whose data was obtained during field inquiries. The study used the information collected from the respondents from sampled YPs in the four Sub Counties to provide answers to the study questions. Therefore, the study arrived at the following conclusions.

First, the study concluded that majority sampled trainees’ parents were peasant farmers and business persons whose monthly income was not guaranteed due to unpredictable weather and fluctuating market prices respectively. These parents faced challenges in paying for their children upkeep at YPs. However, the study concluded that some trainees’ parents were
employed skilled workers who served in various sectors as teachers, drivers, policemen, nurses and pastors. This category of parents enjoyed monthly steady incomes and could afford to pay for their children’s education at YPs.

Secondly, the study concluded that agriculture was not offered as a trade because YPs did not receive trainees requesting to train in it. The study concluded that trainees studied masonry trade because of construction opportunities available in their communities. Further, the study concluded that trainees joined tailoring to seize opportunities in the clothing industry despite the challenges posed by (mitumba) cloths prevalence in markets. Finally, the study concluded that some carpentry/joinery trainees joined the trade because of many construction opportunities available in their locality such as furniture making repairs, roofing buildings in institutions among others.

In response to the first study questions, which sought trainees, instructors and parents’ views on purpose and functions of the YPs, the study concluded that YPs have potential to expand their training by adopting modular curricula. Such curricula could accommodate potential trainees from various sectors in need of vocational skills at different times in a year. Moreover, the study concluded that YPs operated independent of host communities and lagged behind vocational market needs due to operating in isolation. Further, the study concluded that community’s negative attitude towards vocational training influenced parents against enrolling their children at YPs.

The study noted that YPs continued to supply vocationally trained personnel to community services and equipped youths with vocational skills for self or gainful employment. Such personnel included tailors, carpenters and masons. However, the study concluded that continued communities’ negative attitude towards vocational training and lack of clear government policy
on YPs VET respectively were the main barriers against vocational training. The study concluded that young people nowadays were attracted to office jobs as opposed to manual work.

On the second study question the study concluded that majority YPs implemented KIE training guidelines as opposed to NITA (official) guidelines which is the examining body. Thus, trainees received inadequate VET skills as a result of implementation of wrong syllabi. However, both sets of syllabi lacked ICT component. This observation went against the reality in labour market where automated machines and tools required ICT knowledge. Finally, study concluded that all sampled instructors were unaware of ISCO-08 training standards. This particular aspect made training weak in that trainers were not aware of trades ISCO-08 requirements.

On implementation of trade guidelines, the study concluded that second year trainees sat end of term/end of course examinations. Furthermore, trainees attended 1 hour theory lesson per day for 4 days that was later followed by 2 hours each of practice for two days and 3 hours each of practice for two days and finally 4 hours of practice on the fifth day. This timetable arrangement gave trainees a good time to reflect and apply theoretical concepts taught to them during practice lessons. Further, the study concluded that YP trainees achieved skills competences despite difficulties experienced in financing of vocational education. Finally, the study concluded that while instructors were willing to upgrade their skills; poor pay and affordability to pay for their training besides household expenses were the core factors hindering instructors from joining institutional based programmes.

In response to the third question the study concluded that while instructors employed demonstration method in giving theory instructions to trainees in class, trainees explained how those skills worked. However, few trainees faced some difficulties in explaining some vocational skill concepts besides practical difficulties. Such concepts are sawing along curved lines,
dressing stones along curved lines and sewing flower patterns on garments. In effect instructors employed the use of Kiswahili to interpret difficult vocational concepts to trainees. The study concluded that trainees sat end of term practical exams where they made a defined model and also did a project within the term. Trainees, during practical lessons made items such as stools, ordinary chairs, desk and coffee tables. However, the study concluded that some trainees in all sampled trades of carpentry/joinery, masonry and tailoring experienced some difficulties during the learning process. Despite these challenges, majority trainees had gained proficiency in their respective trades.

On the fourth study question the study concluded that few YPs had met the required student/tool ratios in very few areas. This implies trainees shared tools during practice lessons. Moreover, there were important tools/equipment that some YPs could not afford to buy due to financial handicaps; for example, electric/threadle singers and various types of electric wooden machines. Few YPs employed automated tools especially wood machines in carpentry. The study concluded that none of the sampled YPs taught computer packages to her students. Further, the study concluded that trainees were not exposed to ICT knowledge since it was not examinable in the trades’ exams. The study concluded that some YP trainees had fairly good performance in NITA Carpentry/Joinery, masonry and tailoring during 2012 NITA exams. Overall, the trainees’ skills proficiencies in some YPs were good while in others skills proficiencies were average and required improvements.

In response to the fifth question the study concluded that provision of adequate and automated training tools/equipment and consumable materials would improve training at YPs. Secondly, most YPs lacked workshops and physical structures which contributed to inadequate VET skills acquisition by trainees. The study concluded that all sampled YPs needed to be staffed with
enough instructors in the trades of tailoring, masonry and carpentry/joinery in order to bridge the existing instructing gap. Besides, the teaching instructors should be taken for skills upgrading during school holidays. This is because majority of the instructors instructing at sampled YPs were either unqualified professionally and were certificate holders in vocational education. The study concluded that YPs be offered good incentives and their salaries be revised upwards in realisation of inflationary factors.

The study concluded that both NITA (2013) and KIE (1989) syllabi are silent about trainees’ workplace attachment. However, the study concluded that most YPs left trainees to seek workplace experiences by themselves especially over school holidays. Moreover, very few YPs had elaborate systems of ensuring their trainees attended to workplaces in their locality and in some industries. However, trainees faced some resistances from some industries who perceived they could not cope with automated machines. On the other hand, the study concluded that none of the sampled YPs had instructors undergoing workplaces experiences, which is contrary to current VET policy requirements. This had negative effects on instructional delivery to the trainees who benefitted from instructors wealth of knowledge. Further, the study concluded that some YPs had IGU that made some goods for sale such as moneymaker spare parts and culverts/fencing posts; aprons, furniture and concrete building blocks among others. These IGU assisted trainees to enhance their skills competences as they worked under close guidance of their instructors.

Findings about sixth study question concluded that trainees would seek employment from factories and obtain contracts with local institutions like schools and dispensaries. On the other hand some trainees would change their career path away from their trade by venturing into
something else such as starting a kiosk and taking a course in motor vehicle driving that could place them in a better position in the labour market.

5.4 Recommendations

From the study findings, the following recommendations are suggested to address problems facing instructional implementations in vocational education at YPs in MIEMCK. Finally, recommendations for further research are documented.

5.4.1 Policy recommendations

First, the study established that majority of the public YPs were poorly staffed due to none existence of government policy on staffing of YPs in Kenya despite existence of similar policies for government supported VET institutions. Despite the VET policy lumping together YPs with technical training institutes and national polytechnics which are staffed by Teachers’ Service Commission (TSC) YPs are supposed to be staffed by PSC and county governments as from 2014. Therefore for staffing equity to be achieved at YPs, the Kenya government should initiate a staffing policy framework that will see TSC take over instructor staffing issues at YPs.

Secondly, the study findings showed that most sampled YPs in MIEMCK were poorly enrolled. Although this factor was strongly linked to communities’ negative perceptions and attitude about VET at YPs, enrolment issues go beyond community attitude. Besides, enrolling primary school standard 8 leavers with say form 4 leavers together contributes to the negative perception in which communities see VET at YPs. Moreover YPs have no known admission criteria of trainees like other mainstream post-primary institutions. Thus, a government policy addressing YP admission criteria in consonant with other VET institutions would improve trainees’ enrolment at YPs.
Thirdly, from the observations about training guidelines provided by instructors of sampled YPs during field inquiry, it is apparent that few YPs were implementing NITA syllabi guidelines and the rest KIE syllabi guidelines despite wide structural and content differences. Furthermore, these guidelines were silent on use of ICT in giving instructions. However, the trainees were subjected to the same examinations. Thus, a government policy on implementation of VET training guidelines that employ ICT is long overdue. Such a policy would streamline standardised VET training guidelines synchronised with ISCO-08 training standards.

Fourthly, one of the study key findings was financial inadequacy facing YPs. The study established that inadequate finances lead to YPs inability to procure some relevant training tool/equipment and consumable materials. Moreover, many YPs lacked training workshops and instead carried out practicals under tree shades. Therefore, county governments being custodians of YPs (cic) should come up with comprehensive policy frameworks on financing YPs.

Fifth, the study documented that both KIE (1989) and NITA (2013) training guidelines employed by sampled YPs were silent on trainees’ workplace attachment. The study concluded that workplace attachment introduces a trainee to real life industrial setup where one trains with automated equipment, a practice prevalent in the labour market today. Therefore, the existing TVET policy in Kenya should cover both YP trainees and instructors work place attachment.

Lastly, the study found out that lack of IGU policy at the YP institutional level slowed initiation and development of income generating units. The main reason provided by key informants was that despite instructors and trainees being engaged in production process, after selling the items, all proceeds go to the institutions entirely without rewarding the producers’ efforts. Therefore, at
institutional level, an IGU policy agreed between YP BOM/manager and instructors would streamline running of income generating units.

5.4.2 Recommendations for further research

Although attitude towards VET at YPs could be linked to the way YPs had been operating under poor training environments, a comparative study could be carried out to look into ways of creating attitude change among consumers of YP services in selected rural and urban centres in Kenya.

This study investigated pre-service training on YPs instructional delivery for vocational training needs and their uses specifically in the trades of masonry, tailoring and carpentry/joinery. However, the researcher proposes that a study be carried out to address instructional needs and their use for adequate acquisition of skills in other trades like metal work, mechanics and hair dressing.

Youth polytechnics form majority class of VET institutions in Kenya. Thus, lack of adequate finances to buy training tools/equipment and consumable materials besides constructing workshops and other learning facilities were cited as main reasons of inadequate training. Therefore, the researcher proposes that a study be carried out on alternative ways of financing YPs through industry and community based initiatives in Kenya.

The question of lack mentors among YP trainees was raised quiet often during data analysis. Therefore it is of importance to institute a longitudinal tracer studies about YP leavers who left and have spent some time, say, 5 years since they left YPs. Such studies would provide data about activities being undertaken by YP leavers perceived to be mentors to would be YP trainees within their locality.
The study found out that use of ICT during instructional implementation at YPs by instructors was not there. Besides, computer knowledge did not constitute the subject matter of examination in the respective trades’ final grade. Therefore the researcher recommends that a study be carried on the impact of ICT on instructional implementation at youth polytechnics in Kenya.
REFERENCES


Kenyatta University Geography Department. (2012). Map of Kenya Showing Geographical Locations of the 12 Sampled YPs in MIEMCK, Unpublished work. Geography Department, KU.


Sanford, B. and McCaslin, N. (2004). Assessment of professional development activities, instructional needs and delivery methods of part-time technical and occupational staff in US community colleges. A report by the National Centre for Career and Technical Education (NCCTE), Columbus, OH.


**Journals**


**Thesis**


ANNEX I
RESEARCH INSTRUMENTS
Annex 1:-A
Youth Polytechnic Instructor’s Interview Schedule
This open ended interview is meant for instructors instructing the trades of tailoring, carpentry/joinery and masonry. The instrument seeks your views about training materials in YP and individual classroom/workshop, sources of such materials, trainees level of instructional participation within and without the classroom during normal lessons, and support that parents and host community accords your YP. All information yielded here will be treated confidential.
State the trade(s) you instruct in this YP. ……………………………………………………………

How many trainees are taking the trade/s you instruct? Males
………………………………………………………
Females……………………………….

For how long have you been an instructor in this YP and, elsewhere?
1. What are your views on the nature of trades offered to trainees in this YP?
2. What is the response of trainees’ participation in the classroom or workshop in the course of training in your trade? (Probe for indicators).
3. What is your view about the level and adequacy of training and learning materials in the workshops and classrooms? (Probe for indicators such as textbooks, facilities, material among others).
4. Apart from using conventional methods of instructing trainees, what other methods of giving instructions have you devised in the trade you instruct? (Probe for indicators).
5. What difficulties do you encounter in the course of instructing your trade in terms of tools, equipment, consumable materials and other facilities? (Probe for indicators).
6. How do you rate your trainees’ level of perception in vocational skills acquisition in the trade you instruct? (Probe for indicators-performance, rate of participation in a class activity).
7. As an instructor, what do you do when educational resources available per trainee are inadequate?
8. What is the current status of YP physical facilities? (Probe for indicators number of workshops, desks, workshop space, functional tools and equipment available, library, training manuals).

9. Do you think parental and community support for YP has been utilised to the maximum? (Probe for areas community resources has not been tapped).

10. How supportive are parents in providing for:
   a) Training and learning materials?
   b) YP physical facilities like workshops and classrooms?

11. What kind of challenges have you been experiencing in the trade you instruct during the course of training in this youth polytechnic? (Probe for indicators).

12. Does your department or trade run any income generating project? (Probe for indicators).

13. If yes, how do you utilise the project’s proceeds in improving vocational training?

14. When did you lastly attend to in-service training course related to the trade you instruct? (Probe for indicators).

15. Do you use computer technology (Information Communication Technology) in the course of giving instructions to trainees in the workshop or classroom? (Probe for indicators, such as availability of computers, projectors, source of electricity, white board/white wall among others).

16. What time is allocated practice and theory lessons per week in the trade you instruct?

17. Do you inculcate cooperative, communication, work ethic, entrepreneurship, and commitment skills into your trainees in the event of giving instructions? (Probe for indicators).

18. When and where do your trainees go for attachment? (Probe for indicators).

19. What linkages does YP have with local industries in the trade that you instruct? (Probe for indicators).

20. What is your view on the future of vocational training at YP level?

21. Does your employer motivate you well to perform instructing duties with minimal constraints?

22. What suggestions would you provide to help improve vocational instructions delivery mechanisms in the trade you instruct?

Thank you
Annex I:-B

Youth Polytechnic Manager’s Interview Schedule

The aim of this interview is to seek your opinion on the adequacy of vocational training at YPs and how to ensure that quality is maintained. The information you provide will be used purely for academic purposes and your identity and information you provide will be treated in confidence.

Introduction

1. Designation……………………………………………………………………………………..
2. For how long have you been a manager in this Youth polytechnic?..........................
3. When was this institution started?..........................................................................
4. Currently, what is the population of trainees in this YP? Male ..........Female...........
   tailoring........, carpentry/joinery........... and masonry...........
5. Kindly list the number of trades being offered by this YP......................................

Vocational training issues

i. Who provides for the trainees training by way of purchasing training: manuals, equipment, consumables and other supplementary learning materials? (The researcher to probe for type and related costs).
ii. Is there adequate availability of training tools, facilities, and equipment and consumable materials in every department?
iii. How do you meet the deficit in training materials? (The researcher to probe for descriptive indicators).
iv. Provide information on the following areas:
   a) Number of instructors in this YP: trained and not trained and deficit.
   b) Income generating projects.
v. Provide information on instructors, trainees and parents views on prospects of vocational training at YP. (probe for indicators- promising, willing to improve, volunteering information)
vi. How did the trainees in the trades of carpentry/joinery, masonry and tailoring perform in the last four years? (probe for indicators-improvement index, mean score per trade)

vii. What is your opinion on instruction methodologies employed by instructors in training trainees in the trades of carpentry/joinery, masonry and tailoring?

viii. What arrangements does the YP have in place to ensure that training resources, both materials and financial, that are made available to this YP are efficiently used to improve vocational training mechanisms. (The researcher to probe for descriptive indicators).

ix. How much money does the YP require per year to run her vocational courses efficiently? (The researcher to probe for descriptive indicators such as training materials, equipment, building facilities, among others).

x. Are there any collaborative arrangements between this YP and parents, nongovernmental organisations (NGO) to ensure that resources made available to the YPs are efficiently used? (The researcher to probe for descriptive indicators, such as work of BOM and parents and any group support among others).

xi. How often do you organise for parents and instructors meetings to discuss the problems facing vocational instruction implementation in this YP? (The researcher to probe for frequency and nature of meetings, issues discussed among others).

xii. Does your institution liaise with any local industry for purposes of enhancing training in respect to vocational training courses carried out here? (The researcher to probe for descriptive indicators).

xiii. How often does your YP revise the training curriculum? (Probe for indicators).

xiv. How do you engage local industries in specific areas of training such as tailoring, masonry and carpentry? (The researcher to probe for descriptive indicators).

xv. Are trainees sent for industrial attachment as part of vocational training curriculum? (The researcher to probe for descriptive indicators such length of attachment, specific tasks trainees do, assessment carried out by instructors’ among others).

xvi. Who pays for instructors in this YP? (The researcher to probe for descriptive indicators).

xvii. What is level of instructors staffing, and how do you cater for deficit if any? (The researcher to probe for descriptive indicators).

xviii. What arrangements has the YP developed to in-service instructors? (The researcher to probe for descriptive indicators).
xix. What priorities have you outlined in this YP’s development plan for the current financial year?

xx. What is the status of Information Communication Technology (ICT) in this YP? (Probe for indicators).

xxi. Explain how (ICT) is being used by instructors in giving instructions to the trainees. (Probe for indicators).

xxii. Summarise the current challenges facing implementation of vocational instructions and training in this YP.

Thank you
Annex I:-C

Sub County Youth Training Officer’s Interview Schedule

The aim of this interview is to seek your opinion on the adequacy of vocational training at YPs and how to ensure that quality is maintained. The information you provide will be used purely for academic purposes and your identity and information you provide will be treated in confidence.

Introduction

i. Designation……………………………………………………………………………………………………………………………..

ii. Sub County ……………………………………………………………………………………………………………………………

iii. Duration in your present station………………………………………………………………………………………………

iv. What is the population of the following personnel in YPs in this Sub County?

Trainees: Male …………………………..Female ……………………………………………………………

Instructors: male………………….. Female…………………………………………………

Vocational training matters

1. What is your opinion about the adequacy of YP’s vocational training and learning material and equipment in the in this Sub County? (The researcher to probe for descriptive indicators).

2. What aspects or services of vocational training does your ministry support at youth polytechnics? (The researcher to probe for descriptive indicators).

3. What are your views on the adequacy of instructing methodologies used by instructors in implementing the vocational curriculum at youth polytechnics? (Probe for indicators).

4. As a DYO, do you have any role in raising the standards of instructions in vocational training at YPs? (The researcher to probe for descriptive indicators).

5. What is your role in ensuring adequate vocational curriculum implementation is carried out among youth polytechnics in your area of jurisdiction?

6. As a DYO, how do you ensure YP trainees are provided with adequate vocational training? (The researcher to probe for descriptive indicators).
7. What aspects do you evaluate in YPs when you go for visitations? (The researcher to probe for descriptive indicators).

8. What mechanisms are you devising to put in YPs so as to improve vocational skills on service delivery as required by the community and the market YPs serve?

9. What is the level of YP instructors’ qualifications in this Sub County? (The researcher to probe for descriptive indicators).

10. How often does your ministry carry out in-service training (INSET) courses for YP instructors? (The researcher to probe for descriptive indicators).

11. What do you think hinders parents from fully supporting vocational education and training at YP level?

12. In your own opinion do you think the current technological developments in ICT trends affect the adequacy of vocational training in YP? If yes in what specific areas do they affect vocational instructions?

13. What are your opinions on the marketability and relevance of trades of carpentry/joinery, masonry and tailoring offered at youth polytechnics?

14. Does your department carry out tracer studies on youth polytechnic leavers so as to validate the vocational courses offered at different youth polytechnics? (Probe for indicators).

15. What are your suggestions in regard to appropriate strategies that would help improve instructional delivery mechanisms in youth polytechnics?

16. During your stay in this Sub County office, explain your observations about the local people in regard to their views on vocational training at YP level. (Probe for indicators).

Thank you
Annex I:-D

Director Youth Training Interview Guide

The aim of this interview is to seek your opinion on the adequacy of vocational training YPs and how to ensure that quality is maintained. The information you provide will be used purely for academic purposes and your identity and information you provide will be treated in confidence.

Introduction
a) Designation………………………………………………………………………………..

b) Region……………………………………………………………………………………...

c) Duration in your present situation………………………………………………………..

d) What is the population of the following in YP in this region?
   Trainees: Male …………………….Female ……………………………………………
   Instructors: male…………………. Female………………………………………………

Vocational training matters

i. What is your opinion about the adequacy of YP’s vocational training and learning material and equipment in the MIEMCK? (The researcher to probe for descriptive indicators).

ii. What aspects or services of vocational training does your ministry support at youth polytechnics? (The researcher to probe for descriptive indicators).

iii. What are your views on the adequacy of instructing methodologies used by instructors in implementing the vocational curriculum at youth polytechnics? (Probe for indicators).

iv. As a PYO, do you have any role in raising the standards of instructions in vocational training at YP? (The researcher to probe for descriptive indicators).

v. What is your role in ensuring adequate vocational curriculum implementation is carried out among youth polytechnics in your area of jurisdiction?

vi. As a PYO, what measures do you put in place to ensure YP trainees are provided with adequate vocational training? (The researcher to probe for descriptive indicators).

vii. What aspects do you evaluate in YP when you go for visitations? (The researcher to probe for descriptive indicators).
viii. What mechanisms are you devising to put in YP so as to improve vocational skills on service delivery as required by the community and market YPs serve?

ix. What is the level of YP instructors’ qualifications in this region? (The researcher to probe for descriptive indicators).

x. How often does your ministry carry out in-service training (INSET) courses for YP instructors? (The researcher to probe for descriptive indicators).

xi. What do you think hinders parents from fully supporting vocational education and training at YP level?

xii. In your own opinion do you think the current technological developments in information communication technology trends affect the adequacy of vocational training in YP? If yes in what specific areas do they affect vocational instructions?

xiii. What are your opinions on the marketability and relevance of trades of carpentry/joinery, masonry and tailoring offered at youth polytechnics?

xiv. Does your department carry out tracer studies on youth polytechnic leavers so as to validate the vocational courses offered at different youth polytechnics? (Probe for indicators).

xv. What are your suggestions in regard to appropriate strategies that would help improve instructional delivery mechanisms in youth polytechnics?

xvi. During your stay in this regional office, explain your observations about the local people in regard to their views on vocational training at YP level. (Probe for indicators).

Thank you
Annex I:-E

Youth Polytechnic Second Year Trainee’s Questionnaire

The following questionnaire is set to capture data on trainee’s opinions pertaining adequacy of vocational instructions in your particular trade. You will be assisted by identified instructors with the help of research assistants to complete the questionnaires. The information you provide in this questionnaire will be treated confidential.

Introduction

1. Name of your youth polytechnic………………………………………………………………………

2. Gender ………………………………………………………………………………………………………

3. Trade ………………………………………………………………………………………………………

4. What do your parent/guardian do for daily occupation?………………………… Explain…

5. Indicate level of education of your parent/guardian.

<table>
<thead>
<tr>
<th>Parent/guardian</th>
<th>Primary level</th>
<th>Secondary</th>
<th>College</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guardian</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vocational training issues

6. State your opinion on availability of training materials in your trade:
   a. Text books adequate/inadequate;
   b. Training manuals adequate/inadequate,
   c. Trade tools adequate/inadequate,
   d. Training facilities like workshops and classrooms-- adequate/inadequate.

7. In your particular trade, do you have all the required training tools and equipment? List the tools that are available and tools that are not available in your trade in the Table below.

<table>
<thead>
<tr>
<th>Vocational training tools for …………………….. trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tools available in YP</td>
</tr>
<tr>
<td>-----------------------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
8. How do you carry on with training when a required training tool in your trade is not available? State………………………………………………………………………………………………………

9. In your course of training have you been taught computer courses in relation to trade instructions? State YES or NO.
   a. If YES, what would you like improved in it?
   b. If NO what would you like YP to do about it?

10. State the difficulties you experience in your trade in the course of training?………………………………………………………………………………………………………………

11. Do you have difficulties in understanding certain vocational skills in your trade during the normal workshop or classroom lessons?
   a. If so, state the difficulties experienced…………………………………………..
   b. What would you like your instructor do so that you can get the skills being taught in your trade with ease? State ……………………………………………………………

12. What do you like YPs to do so as to improve the adequacy of vocational instructions in your trade? State………………………………………………………………………………

13. Do you have confidence in vocational training at YPs as a mechanism for self-employment among the youth? State YES or NO. If so state your reasons ……………………………

14. Now that you are almost leaving YP having acquired certain vocational skills what career prospects do have in mind that may be applicable to your area of training? State…………………………………………………………………………………………

15. What is your opinion about the future of YP vocational training? State…………………………………………………………………………………………………………

16. Rate your youth polytechnic on the following scale by ticking one option: very good, good, average and poor.

Thank you
Annex I:-F

Checklist for Tools, Training Manuals, Equipment, Workshops and Classrooms

Workshops

- Lighting  
  - Availability of electricity  
    - Natural lighting  
      - good/poor  
      - Availability of electricity  
        - good/poor  
      - Natural lighting  
        - good/poor  
 1) Chalk board  
    - Visibility  
    - Painting black  
    - Smoothness of surface  
      - good/poor  
      - Suitability in writing instructions  
        - good/poor  
 2) Desks – available for all trainees  
    - Condition of state or repair  
      - good/poor  
      - Suitability of design in terms of giving trainee comfort  
        - good/poor  
 3) Walls - tick appropriately  
    - Permanent / temporary  
    - Painted  
      - good/poor  
      - Cleanliness  
        - good/poor  
 4) Roof  
    - Tile/corrugated iron sheets  
    - Thatch grass  
    - Well covered  
    - Leaking  
      - Crumbling  
 5) Ventilation good flow of air  
    - Uncomfortable environment  
      - dusty/smelly  
 6) Floor –  
    - earth/cemented  
 7) Workshops  
    - Lighting and ventilation  
      - First aid kits  
        - good / poor  
      - Sufficiency of space  
        - present/absent  
        - good/poor  
 244
- Benches adequate/inadequate

9) Inventory records containing singers functional / non-functional

-tailoring tools and other accessories like real threads, needles, tape measures, iron boxes, clothes, pairs of scissors, among others.

10) Tools and equipment available for carpentry and joinery

-Planes functional / non-functional

-Hammers, nails, glue, saws, timber,

11) Training manuals, textbooks, trainees’ guides and syllabus for all trades

12) Training tools for masonry-plumb line, chisel, hammers, trowel, spades, wheelbarrow, levels, among others.
Annex I:-G

YP Board of Management and Parents Focus Group Discussions

This instrument seeks the opinions of parents association and BOM members of individual sampled YPs as one team that is charged by the community in overseeing running of YPs. The tool seeks views on level of parental and community support to YPs and other issues that affect the quality of YPs vocational training in one way or the other. Your identity and information provided will be used purely for academic purposes and individual contributions will be treated confidential.

a. As a member of YP BOM/parents what do you consider to be your role in the YP management?

b. On a general level, describe the attitudes of parents and YP host community as a whole towards the vocational training among YPs in this locality. (The researcher to probe for specific indicators that are descriptive of community attitudes such as supportive by participants in fund raising, giving donations to YPs, volunteering information for the good and development of YP among others).

c. Are you aware of households in this community who do not value vocational education especially at YP level of training? (The researcher to probe for reasons).

d. In the present circumstances, does this community have faith in vocational education especially at YP level of training? (The researcher to probe for reasons).

e. What specific aspects of YP’s vocational training are supported by parents and community?

f. In your own opinion is the support of community and parents to YP adequate?

g. What do you think are reasons hindering both parents and community members from supporting YPs to the required level?

h. As a member of parents/BOM what mechanisms do you have in ensuring the success of vocational training in this particular YP? (The researcher to probe).

i. What problems have you faced in trying to perform the role in h above? (The researcher to probe for problems).

j. What is the relationship between you, the YP management and the instructors?

Thank you so much
Annex I:-H.
Schedule for Document Analysis and Statistical Data

The current study purposes to critically analyse both past and present records of official documents so as to provide supportive data. They entailed the following information pertaining to sampled YPs for the current study.

1. YP performance in the NVCET or GTT exams in the last four years since 2012.
2. YP training curriculum documents such as instructors’ guides and record of works.
3. Progressive records of trainees end of term and year examination reports.
4. Records of training facilities, training manuals, tools, equipment and consumable materials for each sampled trade training manuals.
5. Trainees’ main textbooks and reference textbooks, practical guides, internal and external examinations papers and industrial attachment log books.
6. Training methodologies outlined in schemes of work / lesson plans.
7. Admission registers for trainees in the sampled trades.
8. Allocation of budget to different trades and related activities.
9. Sources of finances and expected amounts annually.
10. Records of both BOM and Parents meetings.
11. YP development plan records, if any.
12. Availability and use of information communication technology (ICT) within the YP.

At the SCYTO’s and DYT’s office documents with information relating to:

a. Number of public YPs and current enrolment and number of streams per trade.

b. Current distribution of instructors per YP, their professional qualification and academic qualifications.

c. MoYAS YPs inspection records.

d. Current trainees’ dropout rates and completion rates.

e. Government policies that have affected development and instructional delivery at YP within the Sub County.

f. Information relating to both government and community in supporting YP vocational training aspects.

g. ICT policy initiative among YPs within the Sub County.

h. Sub County development plan in regard to vocational training in YPs.
ANNEX II

STUDY WORK PLAN

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MONTH</th>
<th>ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>September-December</td>
<td>Polishing of draft proposal.</td>
</tr>
<tr>
<td>2010-11</td>
<td>Jan-December</td>
<td>Correction of proposal draft.</td>
</tr>
<tr>
<td>2012</td>
<td>January-June</td>
<td>Fine tuning proposal for defense.</td>
</tr>
<tr>
<td></td>
<td>July</td>
<td>Proposal defense at department.</td>
</tr>
<tr>
<td></td>
<td>August-December</td>
<td>Registering at graduate school and carrying out corrections after defense.</td>
</tr>
<tr>
<td>2013</td>
<td>January-April</td>
<td>Field inquiry collecting data.</td>
</tr>
<tr>
<td></td>
<td>May-August</td>
<td>Data analysis and organisation of thesis.</td>
</tr>
<tr>
<td></td>
<td>September-December</td>
<td>Carrying out corrections on data analysis.</td>
</tr>
<tr>
<td>2014</td>
<td>January-May</td>
<td>Corrections and fine tuning thesis for defense.</td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>Notice of submission of thesis.</td>
</tr>
<tr>
<td></td>
<td>November</td>
<td>Defense of thesis at school of Education.</td>
</tr>
<tr>
<td></td>
<td>December</td>
<td>Doing final corrections, binding and presentation of dissertation for signing.</td>
</tr>
</tbody>
</table>
ANNEX III

BUDGET

- Typing/photocopying (research proposal/instruments) 15,000.00
- Telephone 5,000.00
- Computer/internet (services) 10,000.00
- Accommodation 30,000.00
- Traveling 40,000.00
- Consultancy 30,000.00.
- Typing and printing of copies of proposal and thesis 40,000.00
- Stationary 10,000.00
- Miscellaneous expenditure 17,000.00
- **Total** 197,000.00
<table>
<thead>
<tr>
<th>S/No</th>
<th>Name</th>
<th>District existing by 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>REUMA YOUTH POLYTECHNIC</td>
<td>Isiolo</td>
</tr>
<tr>
<td>2</td>
<td>UHURU YOUTH POLYTECHNIC</td>
<td>Isiolo</td>
</tr>
<tr>
<td>3</td>
<td>ST. JOSEPHS YOUTH POLYTECHNIC</td>
<td>Isiolo</td>
</tr>
<tr>
<td>4</td>
<td>KANGARU YOUTH POLYTECHNIC</td>
<td>Embu</td>
</tr>
<tr>
<td>5</td>
<td>KANORORI YOUTH POLYTECHNIC</td>
<td>Embu</td>
</tr>
<tr>
<td>6</td>
<td>NEMBURE YOUTH POLYTECHNIC</td>
<td>Embu</td>
</tr>
<tr>
<td>7</td>
<td>ENA YOUTH POLYTECHNIC</td>
<td>Embu</td>
</tr>
<tr>
<td>8</td>
<td>IRIAMURAI YOUTH POLYTECHNIC</td>
<td>Mbeere</td>
</tr>
<tr>
<td>9</td>
<td>DON BOSCO YOUTH POLYTECHNIC</td>
<td>Mbeere</td>
</tr>
<tr>
<td>10</td>
<td>KANYUAMBORA YOUTH POLYTECHNIC</td>
<td>Mbeere</td>
</tr>
<tr>
<td>11</td>
<td>SIAKAGO YOUTH POLYTECHNIC</td>
<td>Mbeere</td>
</tr>
<tr>
<td>12</td>
<td>NGELANI YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>13</td>
<td>NZOWENI YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>14</td>
<td>KIMUTWA YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>15</td>
<td>MACHAKOS TECHNICAL INSTITUTE FOR THE BLIND</td>
<td>Machakos</td>
</tr>
<tr>
<td>16</td>
<td>KYEMUTHEKE YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>17</td>
<td>LUMBWA YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>18</td>
<td>KAANANI YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>19</td>
<td>MITABONI YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>20</td>
<td>MASII YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>21</td>
<td>VYULYA YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>22</td>
<td>VYULYA YOUTH POLYTECHNIC SPECIAL UNIT</td>
<td>Machakos</td>
</tr>
<tr>
<td>23</td>
<td>ST MARYS KABAA TECHNICAL SCH</td>
<td>Machakos</td>
</tr>
<tr>
<td>24</td>
<td>ST. JOSEPH MWAALA YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>25</td>
<td>TULILA YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>26</td>
<td>JOSPA YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>27</td>
<td>KIBAUNI YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>28</td>
<td>KIONYWENI YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>29</td>
<td>NGENDA YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>30</td>
<td>MWAASUA TOYOTA POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>31</td>
<td>YATHUI YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>32</td>
<td>ST ZENO YOUTH POLYTECHNIC</td>
<td>Machakos</td>
</tr>
<tr>
<td>33</td>
<td>MUKIRIA YOUTH POLYTECHNIC</td>
<td>Meru Central</td>
</tr>
<tr>
<td>34</td>
<td>RUIBI YOUTH POLYTECHNIC</td>
<td>Meru Central</td>
</tr>
<tr>
<td>35</td>
<td>GATUUNE YOUTH POLYTECHNIC</td>
<td>Meru Central</td>
</tr>
<tr>
<td>36</td>
<td>GITUGU YOUTH POLYTECHNIC</td>
<td>Meru Central</td>
</tr>
<tr>
<td>No.</td>
<td>Institution</td>
<td>Location</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>37</td>
<td>GITHONGO POLYTECHNIC</td>
<td>Meru Central</td>
</tr>
<tr>
<td>38</td>
<td>KANYAKINE YOUTH POLYTECHNIC</td>
<td>Meru Central</td>
</tr>
<tr>
<td>39</td>
<td>NKUBU YOUTH POLYTECHNIC</td>
<td>Meru Central</td>
</tr>
<tr>
<td>40</td>
<td>KAAGA SCH. FOR THE DEAF VOCATIONAL TRAINING</td>
<td>Meru Central</td>
</tr>
<tr>
<td>41</td>
<td>KITHOKA YOUTH POLYTECHNIC</td>
<td>Meru Central</td>
</tr>
<tr>
<td>42</td>
<td>NAZARETH YOUTH POLYTECHNIC</td>
<td>Meru Central</td>
</tr>
<tr>
<td>43</td>
<td>KARURUNE YOUTH POLYTECHNIC</td>
<td>Meru Central</td>
</tr>
<tr>
<td>44</td>
<td>ATHWANA YOUTH POLYTECHNIC</td>
<td>Nyambene</td>
</tr>
<tr>
<td>45</td>
<td>MUTHARA YOUTH POLYTECHNIC</td>
<td>Nyambene</td>
</tr>
<tr>
<td>46</td>
<td>KIANJAI YOUTH POLYTECHNIC</td>
<td>Nyambene</td>
</tr>
<tr>
<td>47</td>
<td>MAUA YOUTH POLYTECHNIC</td>
<td>Nyambene</td>
</tr>
<tr>
<td>48</td>
<td>KITHIIRI YOUTH POLYTECHNIC</td>
<td>Nyambene</td>
</tr>
<tr>
<td>49</td>
<td>MITUNTU YOUTH POLYTECHNIC</td>
<td>Nyambene</td>
</tr>
<tr>
<td>50</td>
<td>MUTUATI YOUTH POLYTECHNIC</td>
<td>Nyambene</td>
</tr>
</tbody>
</table>

**Source:** Ministry of Youth Affairs and Sports Records, Nairobi (January, 2012).
## Annex IV:-B

### Parents and BOM Informant for Focus Group Discussions

<table>
<thead>
<tr>
<th>Date</th>
<th>Sub County</th>
<th>Youth Polytechnic</th>
<th>Sampled trades</th>
<th>Number expected</th>
<th>Actual number that participated</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-18/1/2013</td>
<td>Mbeere</td>
<td>Iriamurai</td>
<td>Carpentry</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>21-22/1/2013</td>
<td>Don Bosco</td>
<td></td>
<td>Carpentry</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>23/1/2013</td>
<td>Siakago</td>
<td></td>
<td>Carpentry</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>24/1/2013</td>
<td>Meru central</td>
<td>Gitugu</td>
<td>Carpentry</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>28-29/1/2013</td>
<td>Nkubu</td>
<td></td>
<td>Carpentry</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>31/1/2013</td>
<td>Nazareth</td>
<td></td>
<td>Carpentry</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>4-5/2/2013</td>
<td>Isiolo</td>
<td>St. Josephs</td>
<td>Carpentry</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>6/2/2013</td>
<td>Uhuru</td>
<td></td>
<td>Carpentry</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Reuma</td>
<td></td>
<td>Carpentry</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td>7-8/2/2013</td>
<td>Machakos</td>
<td>Vyulya</td>
<td>Carpentry</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>11/2/2013</td>
<td>Kyemutheke</td>
<td></td>
<td>Carpentry</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>12/2/2013</td>
<td>Kaanani</td>
<td></td>
<td>Carpentry</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Masonry</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tailoring</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>432</td>
<td>123</td>
</tr>
</tbody>
</table>

**Source:** Data obtained from field inquiry, 2013.
Annex IV:-C
Second Year 2013 Carpentry/Joinery Trainees at Kyemutheke YP Jointing a Desk without Clamping
(Notice the crack between the two timbers making top of the desk).

Source: Photograph taken at Kyemutheke YP carpentry/joinery workshop in Machakos County during field inquiry, February 2013.
Annex IV:-D
Stools with Fine Finish made by Sampled Second Year 2013 Carpentry/joinery Trainees at Don Bosco YP

Source: Photograph taken at Don Bosco YP carpentry/joinery workshop during field inquiry in Embu County, March 2013.
Annex IV:-E
Check Listed Clothing Items made by Second Year 2013 Tailoring Trainees at Gitugu YP

Source: Photograph taken at Gitugu YP tailoring workshop during field inquiry in Meru County, March 2013.
Annex IV:-F
Check Listed Dressed Building Blocks made by Second Year 2013 Masonry Trainees at Nkubu YP

Source: Photograph taken at Nkubu YP masonry workshop during field inquiry Meru County, March 2013.

Photograph of check listed building blocks made by St. Joseph’s YP second year 2013 masonry trainees.
Annex IV:-G

NITA Artisan Training Guidelines for Masonry, Carpentry/joinery and Tailoring

MASONRY NATIONAL TRADE TESTING 7
MAS GRADE III 8

Introduction

The Grade III Masonry Trade Test assessment guidelines is developed to test competences of persons engaged in the building industry in order to assess their suitability to carry out tasks expected for the level. The skill area takes into consideration the knowledge requirements, practical; and competences and attitudes necessary in job performance.

The level requires the person to have knowledge and practical competences in building construction works together with a good understanding of safety practices, tools, equipment and materials in order to perform to the required standards. The grade III certificate holder should be able to minimise costs in construction, repair and maintenance of buildings.

MAS III SUB SUBSTRUCTURES 9

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAS III 1.0</td>
<td>WORKPLACE SAFETY AND PROCEDURES</td>
<td>9</td>
</tr>
<tr>
<td>MAS III 2.0</td>
<td>TOOLS AND EQUIPMENT</td>
<td>10</td>
</tr>
<tr>
<td>MAS III 3.0</td>
<td>INTERPRETATION OF WORKING DRAWINGS</td>
<td>12</td>
</tr>
<tr>
<td>MAS III 4.0</td>
<td>PRELIMINARY SITE WORKS</td>
<td>13</td>
</tr>
<tr>
<td>MAS III 5.0</td>
<td>STONE DRESSING (REGULAR SHAPES)</td>
<td>14</td>
</tr>
<tr>
<td>MAS III 6.0</td>
<td>MORTAR</td>
<td>15</td>
</tr>
<tr>
<td>MAS III 7.0</td>
<td>CONCRETE</td>
<td>17</td>
</tr>
<tr>
<td>MAS III 8.0</td>
<td>FOUNDATIONS</td>
<td>19</td>
</tr>
<tr>
<td>MAS III SUP</td>
<td>SUPERSTRUCTURES</td>
<td>26</td>
</tr>
<tr>
<td>MAS III SUP 1.0</td>
<td>WALL CONSTRUCTION</td>
<td>20</td>
</tr>
<tr>
<td>MAS III SUP 2.0</td>
<td>OPENINGS IN WALLS</td>
<td>23</td>
</tr>
<tr>
<td>MAS III SUP3.0</td>
<td>FINISHERS</td>
<td>24</td>
</tr>
<tr>
<td>MAS III SUP3WF</td>
<td>WALL FINISHERS</td>
<td>24</td>
</tr>
<tr>
<td>MAS III SUP3FF</td>
<td>FLOOR FINISHERS</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: Masonry trade syllabus NITA (2013: 2, 8)
Carpentry/Joinery Trade Guidelines
The Grade III Carpentry and Joinery assessment guidelines is developed to test competences of persons engaged in the building industry in order to standardise their operations and certify them for their suitability to carry out tasks expected for the level. The skill area takes into consideration the knowledge requirements, practical competences and attitudes necessary in job performance.

A grades III person is a skilled operator with knowledge of techniques and use of appropriate tools and equipment which are needed to perform a job with efficiency and understanding.

TABLE OF CONTENT
CAJ GRADE III   page
Introduction 5
Major area of competency 5
Basic areas of functional competency 5
CAJ III 1.0 WORKPLACE SAFETY AND PROCEDURES 5
CAJ III 2.0 TOOLS AND EQUIPMENT 7
CAJ III 3.0 SELECTIONS OF MATERIALS 8
CAJ III 4.0 CONVERSION OF TIMBER AND TIMBER DEFECTS 9
CAJ III 5.0 SEASONING, PRESERVATION AND STORAGE OF TIMBER 10
CAJ III 6.0 CONSTRUCTION OF JOINTS AND ASSOCIATED PROJECTS 11
CAJ III 7.0 IRONMONGERY 12
CAJ III 8.0 FINISHING AND FINISHERS 12

Source: Carpentry/joinery trade syllabus NITA (2013: 2, 5)
TAILORING TRADE GUIDELINES

The Grade III Tailoring assessment guidelines is developed to test competences of persons engaged in the building garment making industry in order to standardise their operation and certify them for their suitability to carry out tasks expected for the level. The skill area takes into consideration the knowledge requirements, practical competences and attitudes necessary in job performance.

Persons at this level of competence have useful skills which are for the performance of tasks required in the trade. A grade III person is a skilled artisan with knowledge of technique and appropriate tools which are needed to perform a job with efficiency and understanding. The level requires the artisan to have basic knowledge and understanding of safety procedures, tools, equipment and materials in order to perform to desired quality, standards and minimise on production costs. The artisan at this stage should be able to interpret a given design, cut and assemble various male garments such as shirts, shorts, bush jackets, pyjamas, kitenge/Kaunda shirts and basic trousers.

<table>
<thead>
<tr>
<th>TABLE OF CONTENT- TAILORING</th>
<th>Page NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRADE LEVEL: GRADE III</td>
<td>1</td>
</tr>
<tr>
<td>3.0</td>
<td>1</td>
</tr>
<tr>
<td>3.1</td>
<td>1</td>
</tr>
<tr>
<td>3.2</td>
<td>1</td>
</tr>
<tr>
<td>3.2.1 WORKPLACE SAFETY AND PROCEDURES</td>
<td>1</td>
</tr>
<tr>
<td>3.2.1.1 Performance objective</td>
<td>1</td>
</tr>
<tr>
<td>3.2.1.2 Knowledge requirements</td>
<td>1</td>
</tr>
<tr>
<td>3.2.1.3 Practical competences</td>
<td>2</td>
</tr>
<tr>
<td>3.2.2 TOOLS AND EQUIPMENT</td>
<td>3</td>
</tr>
<tr>
<td>3.2.2.1 Performance objective</td>
<td>3</td>
</tr>
<tr>
<td>3.2.2.2 Knowledge requirements</td>
<td>3</td>
</tr>
<tr>
<td>3.2.2.3 Practical competence</td>
<td>4</td>
</tr>
<tr>
<td>3.2.3 PATTERN DRAFTING OF MALE GARMENTS</td>
<td>5</td>
</tr>
<tr>
<td>3.2.3.1 Performance objective</td>
<td>5</td>
</tr>
<tr>
<td>3.2.3.2 Knowledge requirements</td>
<td>5</td>
</tr>
<tr>
<td>3.2.3.3 Practical competences</td>
<td>6</td>
</tr>
<tr>
<td>3.2.3 PRODUCTION OF MALE GARMENTS</td>
<td>7</td>
</tr>
<tr>
<td>3.2.3.1 Performance objective</td>
<td>7</td>
</tr>
<tr>
<td>3.2.3.2 Knowledge requirements</td>
<td>7</td>
</tr>
<tr>
<td>3.2.3.3 Practical competence</td>
<td>10</td>
</tr>
</tbody>
</table>
Annex IV:-H

KIE Artisan Training Guidelines for Masonry, Carpentry/Joinery and Tailoring

FASHION DESIGN AND GARMENT MAKING TECHNOLOGY 1
14.1.2.0

MODULE TITLE: TAILORING 1
14.1.2.2T

MODULE UNIT: INTRODUCTION TO TAILORING
THEORY

14.1.2.2T1
Specific Objectives
At the end of the module the trainee should be able to:

a) define tailoring
b) discuss different men’s garments
c) explain tailoring occupation in Kenya.

14.1.2.2T2

Content
- Tailoring
- Men’s garments
  - trouser
  - shirts
  - shorts
  - jackets
  - coats
  - pyjamas
- Tailoring occupations in Kenya
  - Self-employment in tailoring
  - Tailoring learning institution
  - Tailoring manufacturing industries

PRACTICE
14.1.2.2T1

Specific Objectives
At the end of the module the trainee should be able to identify different men’s garments.

14.1.2.2T2

Content
- Tailoring
- Men’s garments
  - trouser
  - shirts
  - shorts
  - jackets
  - coats
  - pyjamas

Competences:
- The trainee should have the ability to identify and select various men’s garments.

Teaching/learning activities
- Different men’s garments.
The instructor should:
  - explain the meaning of the term tailoring
  - display different men’s garments to include:
    - trouser
    - shirts
    - shorts
- jackets
- coats
- pyjamas
  
  - Discuss the functions of different men’s garments.

**Source:** Tailoring module trade syllabus KIE (1989:19-20).

**Masonry First Year Trade Practice Guidelines**

**General Objectives**

At the end of this subject the trainee should be able to:

a) Develop skills in proper use and care of masonry and equipment;

b) Demonstrate an awareness of good storage and use common building materials with minimum wastage;

c) Develop safety habits that are required in a working environment

d) Use the acquired skills to perform masonry tasks

(713 hours)

<table>
<thead>
<tr>
<th>Topics</th>
<th>Sub-topics</th>
<th>Time (Hours)</th>
</tr>
</thead>
</table>
| 11.1.2P Tools and equipment    | • Measuring tools  
|                                 | • Sharpening tools  
|                                 | • Cutting tools  
|                                 | • Laying tools  
|                                 | • Finishing tools  
|                                 | • Equipment  | 50            |
| 11.1.3P Safety                 | • Handling of tools  
|                                 | • Behaviour  
|                                 | • Dressing  
|                                 | • First aid kit  | 12            |
| 11..1.4P Common building materials | • Concrete blocks  
|                                 | • Clay blocks  
|                                 | • Clay bricks  
|                                 | • Concrete  
|                                 | • Stones  
|                                 | • Mortar  
|                                 | • Damp proofing materials  | 80            |
| 11.1.5P Stonework              | • Selection  
|                                 | • Dressing  
|                                 | • Stone  | 120           |
| 11.1.6P Block work             | • Selection  
|                                 | • Cutting  
|                                 | • Bonding  | 120           |
| 11.1.7P Brickwork              | • Selection  
|                                 | • Cutting  
|                                 | • Bonding  | 20            |
| 11.1.8P Concrete work          | • batching  
|                                 | • mixing  
|                                 | • casting  
<p>|                                 | • compacting  | 120           |</p>
<table>
<thead>
<tr>
<th>Section</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.1.9P Opening</td>
<td>- curing &lt;br&gt; - cutting, bending and placing of reinforcement &lt;br&gt; - formwork</td>
</tr>
<tr>
<td>11.1.10P Setting Out</td>
<td>- selection &lt;br&gt; - forming openings &lt;br&gt; - bridging openings</td>
</tr>
<tr>
<td>11.1.11P Excavation for Building Foundation</td>
<td>- locating the building line &lt;br&gt; - marking out preparation of profiles &lt;br&gt; - erection of profiles</td>
</tr>
<tr>
<td>11.1.12P Foundations</td>
<td>- trench excavation &lt;br&gt; - timbering to trenches &lt;br&gt; - labeling bottom of trenches</td>
</tr>
<tr>
<td>11.1.13P Floors</td>
<td>- strip foundation &lt;br&gt; - pad foundation</td>
</tr>
<tr>
<td>11.1.14P Damp Prevention in Floors</td>
<td>- construction of &lt;br&gt; - ground floors</td>
</tr>
<tr>
<td>11.1.15P Leveling</td>
<td>- lying of damp &lt;br&gt; - proofing materials</td>
</tr>
<tr>
<td></td>
<td>- location of datum &lt;br&gt; - transfer of levels</td>
</tr>
</tbody>
</table>

**Total**: 713

*Source: Masonry trade syllabus KIE (1989: 87-88)*
11.0 CARPENTRY AND JOINERY Trade Guidelines

TRADE THEORY

11.01 INTRODUCTION
Carpentry and joinery trade Theory is expected to impact basic theoretical knowledge to the trainee to supplement the trade’s practice. This will take 10% of the trade’s training time.

11.02 GENERAL OBJECTIVES

At the end of this subject, the trainee should be able to:-

a) acquire knowledge of the common timbers and manufactured timber available in Kenya;
b) acquire knowledge for proper use and care of woodworking tools and equipment;
c) develop an ability to interpret working drawings;
d) develop safety awareness that is required in a wood working shop and on site.

FIRST YEAR TRADE THEORY
(79 HOURS)

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>SUB-TOPIC</th>
<th>Time (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.1.1.T Introduction</td>
<td>• History of carpentry &amp;joinery</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>• Difference between carpentry &amp;joinery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Organisation of the carpentry &amp;joinery workshop</td>
<td></td>
</tr>
<tr>
<td>11.1.2.T safety</td>
<td>• Accidents</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• Behaviour and dressing workshop cleanliness and organisation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Fire extinguishers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• First Aid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Factories Act</td>
<td></td>
</tr>
<tr>
<td>11.1.3.T materials</td>
<td>• Tree growing and uses</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>• Felling and transportation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Conversion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Market sizes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Seasoning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Defects</td>
<td></td>
</tr>
<tr>
<td>11.1.4.T hand Tools</td>
<td>• Marking out</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>• Measuring and testing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Driving</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Boring</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Cutting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Planning and shaping</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Setting out</td>
<td></td>
</tr>
<tr>
<td>11.1.5.T preparation of materials</td>
<td>• Cutting list format of materials</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>• Setting out rods</td>
<td></td>
</tr>
<tr>
<td>Topic</td>
<td>Subtopics</td>
<td>Notes</td>
</tr>
<tr>
<td>-------</td>
<td>-----------</td>
<td>-------</td>
</tr>
</tbody>
</table>
| 11.1.6. T assembly | • Joints  
• Fasteners  
• Adhesive  
• Holding devices | 18 |
| 11.1.7. T Finishing | • Reasons for applying  
• Finishing materials  
• Equipment  
• Care and maintenance of equipment  
• Care of finishing and finished materials | 6 |
| 11.1.8. T Hardware | • Identification  
• Classification | 6 |
| 11.1.9. T.2 Door frames and door linings | • Sketching door frames and door linings  
• Use of door frames and linings  
• Fixing methods  
• Selections criteria  
• Fixing devices | 5 |
| 11.1.10. T.2 | • Sketching different types  
• Uses and advantages  
• Selection criteria  
• Appropriate ironmongery | 5 |

**Total** | 79 |

*Source: Carpentry/joinery trade syllabus KIE (1989: 60-62)*
## Annex IV:-I

### Topics in NITA GTT III Syllabus but Missing in KIE Artisan Syllabus

<table>
<thead>
<tr>
<th>S/No</th>
<th><strong>A. Carpentry/joinery</strong></th>
<th></th>
</tr>
</thead>
</table>
| 1    | Topic – Workplace safety and procedures | Subtopics:  
- Occupation Safety Health Act (OSHA), 2007  
- Environmental Management and Coordination Act, 2003 |
| 2    | Ironmongery | **Source**: NITA Carpentry and Joinery curriculum (2013) |

<table>
<thead>
<tr>
<th><strong>B. Masonry</strong></th>
<th></th>
</tr>
</thead>
</table>
| 3    | Topic – Workplace Safety and Procedures  
- Occupation Safety Health Act (OSHA), 2007.  
- Zoning Regulations |
| 4    | Topic – Preliminary Site Works  
Subtopics (a). Establishing the building line, north south orientation, wind direction, local authority requirements.  
(b). Electricity, water, communication, access, amenities (toilet sewer line).  
(c). Statutory requirement, security, lighting, safety. |
| 5    | Topic – Mortar | **Source**: NITA masonry curriculum (2013) |

<table>
<thead>
<tr>
<th><strong>C. Tailoring</strong></th>
<th></th>
</tr>
</thead>
</table>
| 6    | Topic-Work Place Safety and Procedures  
Subtopic – uses of various types of fire extinguishers |
| **Class** | **Type** | **Extinguisher** |
| B     | Flammable liquid  | Carbon dioxide foam |
| C     | Flammable gases  | Carbon dioxide foam |
| E     | Combustible metals | Carbon dioxide foam |
| 7    | Topic – Tool and Equipment  
Subtopic:- safe use and care of tools and equipment  
-French curves and pressing equipment |
| 8    | Topic – Production of Male Garments  
Subtopic- State causes and remedies of machine faults | **Source**: NITA tailoring curriculum (2011) |
Annex IV: J

Check Listed Clothing Items at Nkubu YP made by Second year 2013 Tailoring Trainees

Source: Photograph taken at Nkubu YP during field inquiry in Meru County, February 2013.
Annex IV:-K

Pointing Moldings made on Stone Wall by Vyulya YP Masonry Second Year Trainees

2013

Source: Photograph taken at Vyulya YP during field inquiry in Machakos County, February 2013.
Annex IV:-L

Check Listed Coffee Tables made at St. Joseph’s YP by Carpentry/joinery 2013 Trainees

Source: Photograph taken at St. Joseph’s YP carpentry workshop during field inquiry in Isiolo County, March 2013.
### Annex IV:-M

#### Annex IV:-M List of Masonry Tools/Equipment (NITA 2013)

<table>
<thead>
<tr>
<th>Item No</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mason’s trowel</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>Pointing trowels</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>Plastering trowel</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
<td>Wood float</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>Hawks</td>
<td>20</td>
</tr>
<tr>
<td>6</td>
<td>Brick layer hammer</td>
<td>20</td>
</tr>
<tr>
<td>7</td>
<td>Masonry hammers</td>
<td>20</td>
</tr>
<tr>
<td>8</td>
<td>Club hammers</td>
<td>20</td>
</tr>
<tr>
<td>9</td>
<td>Line and pins</td>
<td>20</td>
</tr>
<tr>
<td>10</td>
<td>Straight edges</td>
<td>20</td>
</tr>
<tr>
<td>11</td>
<td>Cold chisels</td>
<td>10</td>
</tr>
<tr>
<td>12</td>
<td>Bolsters (boasters)</td>
<td>20</td>
</tr>
<tr>
<td>13</td>
<td>Tape measure (30 metres)</td>
<td>20</td>
</tr>
<tr>
<td>14</td>
<td>Mason’s squares</td>
<td>20</td>
</tr>
<tr>
<td>15</td>
<td>Safety goggles</td>
<td>20</td>
</tr>
<tr>
<td>16</td>
<td>Pair of pliers</td>
<td>10</td>
</tr>
<tr>
<td>17</td>
<td>Hack saws</td>
<td>10</td>
</tr>
<tr>
<td>18</td>
<td>Jointers (a) concave, (b) convex (c) vee.</td>
<td>20</td>
</tr>
<tr>
<td>19</td>
<td>Angle jointers</td>
<td>20</td>
</tr>
<tr>
<td>20</td>
<td>Wire brushes</td>
<td>10</td>
</tr>
<tr>
<td>21</td>
<td>Hand brushes</td>
<td>10</td>
</tr>
<tr>
<td>22</td>
<td>Mortar trays/pans</td>
<td>20</td>
</tr>
<tr>
<td>23</td>
<td>Mortar hoes</td>
<td>5</td>
</tr>
<tr>
<td>24</td>
<td>Spades</td>
<td>5</td>
</tr>
<tr>
<td>25</td>
<td>Shovels</td>
<td>5</td>
</tr>
<tr>
<td>26</td>
<td>Brooms</td>
<td>10</td>
</tr>
<tr>
<td>27</td>
<td>Sledge hammers</td>
<td>2</td>
</tr>
<tr>
<td>28</td>
<td>Buckets</td>
<td>20</td>
</tr>
<tr>
<td>29</td>
<td>Pangas.</td>
<td>10</td>
</tr>
<tr>
<td>30</td>
<td>Concrete mixer</td>
<td>1</td>
</tr>
<tr>
<td>31</td>
<td>Boning rods</td>
<td>5</td>
</tr>
<tr>
<td>32</td>
<td>Block master</td>
<td>1</td>
</tr>
<tr>
<td>33</td>
<td>Grinder</td>
<td>1</td>
</tr>
<tr>
<td>34</td>
<td>Dumpy level</td>
<td>1</td>
</tr>
<tr>
<td>35</td>
<td>Cowley level</td>
<td>1</td>
</tr>
<tr>
<td>36</td>
<td>Leveling staff</td>
<td>1</td>
</tr>
<tr>
<td>37</td>
<td>Ranging rods</td>
<td>5</td>
</tr>
<tr>
<td>38</td>
<td>Picks</td>
<td>5</td>
</tr>
<tr>
<td>39</td>
<td>Mattocks</td>
<td>5</td>
</tr>
<tr>
<td>40</td>
<td>Plumb bobs</td>
<td>10</td>
</tr>
<tr>
<td>41</td>
<td>Spirit levels</td>
<td>20</td>
</tr>
<tr>
<td>42</td>
<td>Wheel barrows</td>
<td>5</td>
</tr>
</tbody>
</table>
### Annex IV:-N

**List of Tools and Equipment for Tailoring (NITA 2011)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sewing machines (Hand, threadle, electric)</td>
</tr>
<tr>
<td>2.</td>
<td>Dressmakers tape measure</td>
</tr>
<tr>
<td>3.</td>
<td>Dressmakers shears or scissors</td>
</tr>
<tr>
<td>4.</td>
<td>Paper scissors</td>
</tr>
<tr>
<td>5.</td>
<td>Small sharp scissors</td>
</tr>
<tr>
<td>6.</td>
<td>Pins</td>
</tr>
<tr>
<td>7.</td>
<td>Needles</td>
</tr>
<tr>
<td>8.</td>
<td>Tailors chalk</td>
</tr>
<tr>
<td>9.</td>
<td>A ruler and a pencil</td>
</tr>
<tr>
<td>10.</td>
<td>Iron and ironing board</td>
</tr>
<tr>
<td>11.</td>
<td>Thimble</td>
</tr>
<tr>
<td>12.</td>
<td>Pritt stick</td>
</tr>
<tr>
<td>13.</td>
<td>Pressing cloth</td>
</tr>
<tr>
<td>14.</td>
<td>Point turner</td>
</tr>
<tr>
<td>15.</td>
<td>Meter rule</td>
</tr>
<tr>
<td>16.</td>
<td>French or bendy curves</td>
</tr>
<tr>
<td>17.</td>
<td>A large hog bristle artist’s paintbrush</td>
</tr>
<tr>
<td>18.</td>
<td>A box</td>
</tr>
<tr>
<td>19.</td>
<td>A bag</td>
</tr>
<tr>
<td>20.</td>
<td>A Thread</td>
</tr>
<tr>
<td>21.</td>
<td>Sewing gauges</td>
</tr>
<tr>
<td>22.</td>
<td>Seam rippers</td>
</tr>
<tr>
<td>23.</td>
<td>Needle threader</td>
</tr>
<tr>
<td>24.</td>
<td>Pinking shears</td>
</tr>
<tr>
<td>25.</td>
<td>Bodkin</td>
</tr>
<tr>
<td>26.</td>
<td>Sewing rotary cutting mats</td>
</tr>
</tbody>
</table>
Annex IV:-P
List of Tools and Equipment for Carpentry/Joinery (NITA 2013)

<table>
<thead>
<tr>
<th>Item No</th>
<th>Item Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Planes: smoothing Jack, trying, compass, block, rebate, plough, bull nose, and router.</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>Spoke shave, both flat and round.</td>
<td>5 each</td>
</tr>
<tr>
<td>3</td>
<td>Beveled edge chisels: 6mm, 10mm, 12mm, 19mm, 25mm, and 40mm.</td>
<td>20 each</td>
</tr>
<tr>
<td>4</td>
<td>Firmer chisels: 6mm, 10mm, 12mm, 19mm, 25mm, and 40mm.</td>
<td>5 each</td>
</tr>
<tr>
<td>5</td>
<td>Mortise chisels: 6mm, 10mm, 12mm, 19mm, 25mm, and 40mm.</td>
<td>5 each</td>
</tr>
<tr>
<td>6</td>
<td>Hand saws: cross and rip saws. Dove tail, coping, pad, bow hack saws. Tenon saw.</td>
<td>10 each</td>
</tr>
<tr>
<td>7</td>
<td>Claw hammers.</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Wood mallet.</td>
<td>20</td>
</tr>
<tr>
<td>9</td>
<td>Carpenter’s squire.</td>
<td>20</td>
</tr>
<tr>
<td>10</td>
<td>Wellington / cross pain hammer.</td>
<td>5 each</td>
</tr>
<tr>
<td>11</td>
<td>Try square.</td>
<td>20</td>
</tr>
<tr>
<td>12</td>
<td>Benel square.</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>Spirit level.</td>
<td>5</td>
</tr>
<tr>
<td>14</td>
<td>Centre bond.</td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>Line levels</td>
<td>5</td>
</tr>
<tr>
<td>16</td>
<td>Saw set pliers.</td>
<td>5</td>
</tr>
<tr>
<td>17</td>
<td>Saw files:-surface, surforms, bastard, rasp, round, tapered, three edge, half round files.</td>
<td>10 each</td>
</tr>
<tr>
<td>18</td>
<td>Axes.</td>
<td>2</td>
</tr>
<tr>
<td>19</td>
<td>Claw bars- pieces</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>G clamps-300/ 350/ 400 mm-.</td>
<td>6 sets</td>
</tr>
<tr>
<td>21</td>
<td>Steel tapes 3 metres-.</td>
<td>20</td>
</tr>
<tr>
<td>22</td>
<td>Folding rules.</td>
<td>5</td>
</tr>
<tr>
<td>23</td>
<td>Marking gauge.</td>
<td>20</td>
</tr>
<tr>
<td>24</td>
<td>Mortise gauge</td>
<td>20</td>
</tr>
<tr>
<td>25</td>
<td>Oil stones.</td>
<td>5</td>
</tr>
<tr>
<td>26</td>
<td>Slip stones</td>
<td>5</td>
</tr>
<tr>
<td>27</td>
<td>Pair of pincers</td>
<td>10</td>
</tr>
<tr>
<td>28</td>
<td>Ratchet brace</td>
<td>5</td>
</tr>
<tr>
<td>29</td>
<td>Templates for dowels</td>
<td>5</td>
</tr>
<tr>
<td>30</td>
<td>Auger bits-6mm, 10mm, 12mm, 19mm, 25mm and 40mm</td>
<td>5 each</td>
</tr>
<tr>
<td>31</td>
<td>Firmer gouges (outside) different sizes</td>
<td>5 each</td>
</tr>
<tr>
<td>32</td>
<td>Firmer gouges (inside) different sizes</td>
<td>5 each</td>
</tr>
<tr>
<td>33</td>
<td>Builders line</td>
<td>2</td>
</tr>
<tr>
<td>34</td>
<td>Ratchet screw machines</td>
<td>5</td>
</tr>
<tr>
<td>35</td>
<td>Screw drivers’ bits (start 1, 2, and 3) flat large, medium and small.</td>
<td>3 each</td>
</tr>
<tr>
<td>36</td>
<td>Ordinary screw drivers (large medium and small).</td>
<td>5 each</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Quantity</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>37</td>
<td>Philips screw drivers (large medium and small)</td>
<td>5 each</td>
</tr>
<tr>
<td>38</td>
<td>Straight scrapper</td>
<td>5</td>
</tr>
<tr>
<td>39</td>
<td>Round scrapers</td>
<td>5</td>
</tr>
<tr>
<td>40</td>
<td>Nail punch</td>
<td>5</td>
</tr>
<tr>
<td>41</td>
<td>Counter sink bits</td>
<td>5</td>
</tr>
<tr>
<td>42</td>
<td>Marking knives</td>
<td>5</td>
</tr>
<tr>
<td>43</td>
<td>Gimlets</td>
<td>5</td>
</tr>
<tr>
<td>44</td>
<td>Hand drills</td>
<td>5</td>
</tr>
<tr>
<td>45</td>
<td>Oil cans</td>
<td>5</td>
</tr>
<tr>
<td>46</td>
<td>Twist drills (different sizes)</td>
<td>3</td>
</tr>
<tr>
<td>47</td>
<td>Expensive bits (different sizes)</td>
<td>2 sets</td>
</tr>
<tr>
<td>48</td>
<td>Bradawl</td>
<td>5</td>
</tr>
<tr>
<td>49</td>
<td>Vanier calipers</td>
<td>2 sets</td>
</tr>
<tr>
<td>50</td>
<td>Pair of drivers</td>
<td>2 sets</td>
</tr>
<tr>
<td>51</td>
<td>Sash clamps-3,4, and 6 feet long</td>
<td>6 each</td>
</tr>
<tr>
<td>52</td>
<td>Meter clamp</td>
<td>5</td>
</tr>
<tr>
<td>53</td>
<td>Wrenches</td>
<td>2</td>
</tr>
<tr>
<td>54</td>
<td>Bench vices-wood work</td>
<td>20</td>
</tr>
<tr>
<td>55</td>
<td>Paint braches different sizes</td>
<td>5 each</td>
</tr>
<tr>
<td>56</td>
<td>Drawing instruments</td>
<td>20</td>
</tr>
<tr>
<td>57</td>
<td>Drawing boards A2 sizes</td>
<td>20</td>
</tr>
<tr>
<td>58</td>
<td>First aid kit</td>
<td>1</td>
</tr>
<tr>
<td>59</td>
<td>Protective goggles</td>
<td>5</td>
</tr>
<tr>
<td>60</td>
<td>Industrial helmets</td>
<td>5</td>
</tr>
<tr>
<td>61</td>
<td>Hand gloves</td>
<td>5</td>
</tr>
<tr>
<td>62</td>
<td>Wood carving tools</td>
<td>5</td>
</tr>
<tr>
<td>63</td>
<td>Basic upholstery tools</td>
<td>5</td>
</tr>
<tr>
<td>64</td>
<td>Wood working machines-cross cut saw, spindle moulder, wood lathe machine, portable drilling machine, sharpening machine, mortise, portable router, surface planer, portable sander.</td>
<td>1 each</td>
</tr>
</tbody>
</table>
RESEARCH AUTHORIZATION
DATE: 8th January, 2013

Our Ref: NCST/RCD/14/012/1682

Charles Njati Ibuathu
Kenyatta University
P.O.Box 43844-00100
Nairobi.

RE: RESEARCH AUTHORIZATION

Following your application dated 13th December, 2012 for authority to carry out research on “An investigation into the preservice training for youth polytechnic instructional needs in vocational education in the Eastern Region, Kenya,” I am pleased to inform you that you have been authorized to undertake research in Eastern Province for a period ending 28th February, 2013.

You are advised to report to the Provincial Commissioner and the Provincial Director of Education, Eastern Province before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.

DR M.K. RUGUTT, PhD, HSC
DEPUTY COUNCIL SECRETARY

Copy to:
The Provincial Commissioner
The Provincial Director of Education
Eastern Province.

"The National Council for Science and Technology is Committed to the Promotion of Science and Technology for National Development."
RESEARCH PERMIT

This is to certify that:

Prof./Dr. Mr. Mrs./Miss/institution

Charles Muli Mutahi

At (Address) Kenya University

Date: 5th, October, 2012, Nairobi

has been permitted to conduct research in:

Title of Research: Understanding the performance of polytechnics in vocational training

Location: National Council for Science & Technology, Nairobi

for a period ending 28th February, 2013.

Research Permit No. NCST/ACDM/4612/168

Date of issue: 8th January, 2013

Fees received: KSh. 2,000

Signature

Chairman

National Council for Science & Technology

275