Human Resource Capacities and Skills Development in Youth Polytechnics in Murang’á, Kirinyaga and Nairobi Counties, Kenya.

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Abstract
Capacities of personnel are crucial in the development of institutions because of the need for competent human resources. The purpose of this study was to investigate and assess the human resource capacity and its effects on skills development in public youth polytechnics in Murang’a, Kirinyaga and Nairobi counties. The objectives of the study were to assess the human resource capacity in youth polytechnics and effects on skills development and determine the capacity development requirements. The Cross-sectional survey design was used in this study. The study targeted all Public Youth Polytechnics in Murang’a, Kirinyaga and Nairobi counties. The stratified sampling method was used to select the study sample in each county. The study sample comprised 18 youth polytechnics. The respondents were youth polytechnic Managers, District Youth Training Officers, Primary School Head Teachers and Heads of department. Both purposeful and simple random method were used to select the study sample. The instruments for data collection were Questionnaires, Interview and observation schedules. Descriptive analysis was used to analyze the data. The measures of central tendency, frequencies and percentiles were used for analysis. The analyzed data was presented using both tabular and graphical formats. The study established various capacity human capacity gaps that hinder the development of appropriate skills in YPs. These included deficient academic and professional qualifications of the instructors and managers. These capacity gaps led to low enrolment and inadequate training in youth polytechnics. The study recommends legal and policy measures including review of existing laws to enhance human resource capacity of youth polytechnics for appropriate skills development.

Key Words: Youth Polytechnics (YPs), Skills development, human resources.
1.1 Introduction

The relevance of Institutional capacity and skills development is echoed by the findings of Powell and Lindsay (2010) who analysed the success stories of Singapore, Hong Kong, China, Republic of Korea and Viet Nam and noted that significant investment in technology and human resource development were precursors to high growth trajectories. However, Rupert, Jagannathan & Sarvi (2013) further assert that in most African countries education and training systems emphasize theoretical methods and leads to lack of practical skills which hinders development of technical skills and enhancing the capability to achieve growth in the economy.

In Kenya one of the main challenges facing Technical, Vocational Education and Training (TVET) is the failure to respond to the demands of the job market and the needs of industry. In the youth polytechnic sector this is mainly due to poor capacity to develop requisite skills as demanded by industry. (Republic of Kenya (2011e). Youth polytechnics are basic institutions for the development of vocational skills in Kenya. Available literature on YPs (Republic of Kenya, (2012a), Republic of Kenya, (2012b), Republic of Kenya, (2011c), Republic of Kenya. (2018a), Republic of Kenya, (2018b) and Republic of Kenya, (2018c) recognizes YPs as important institutions in skills development in Kirinyaga, Nairobi and Murang’a counties. However, a study on the Effectiveness of youth polytechnics in training the youth for employment in Machakos District, Kenya in 2014 concluded that to a great extent, youth polytechnics (YPs) were not effective in training the youth for employment. (Yungungu, Maleche, Ndurumo & Ogolla, 2014). According to Ibuathu and Thiaine (2013), most instructors in YPs do not have the minimum qualifications both academic and professional, required to instruct in YPs.

In a study on factors influencing acquisition of vocational skills Baituti (2014) was concerned with establishing the level of tutors’ qualification and experience as well as the impact on acquisition of vocational skills. It was established that there was a relationship between students’ performance and tutors’ qualification at 90.5 percent confidence level. It was concluded that the performance of learners and qualification of tutors were statistically significant. From twenty tutors who responded, two of them had KAPE and CPE certificates respectively and that they posted poor results whereas three tutors had KCSE certificates and had posted average results. Twelve tutors had a diploma and they posted the following results: one tutor excellent, another posted good results, eight of them posted average results and two of the tutors posted poor results respectively. The study established that trainers’ qualifications are a critical component in the performance of trainees.

Studies in YPs in Kenya reveal skills gap and a mismatch between training and the skills required by industry. According to Republic of Kenya (2018a), Republic of Kenya (2018b) and Republic of Kenya (2018c), Youth polytechnics have been should be revitalized for skills development in Murang’a, Kirinyaga and Nairobi counties respectively. Although various studies have revealed instructor qualifications inadequacies, it’s necessary to consider other human resource areas that influence skills development in youth polytechnics as addressed in this study.
**Purpose and Objectives of the Study**
The purpose of this study was to investigate and assess the human resource capacity and its effects on skills development in public YPs in Murang’a, Kirinyaga and Nairobi counties. The objectives of the study were:

i. Assess the capacities of the managers, Heads of Department, Instructors and other staff in Youth Polytechnics and the effects on skills development.
ii. Determine the effects of the human resource capacity gaps on skills development.
iii. Determine the human resource capacity development requirements for Youth Polytechnics.

**Theoretical Framework.**
This study investigated human resource capacity and skills development in YPs in Murang’a, Kirinyaga and Nairobi counties. The Human Capital Theory was adopted for the study. The theory was expounded by Theodore Schultz who proposed that human capital consisted of the knowledge, skills and abilities of the people employed in an organisation (McCracken, McIvor, Treacy, & Wall, 2017). Human skills are crucial in sustaining the pace of growth and development through enhanced productivity of human capital. Human capital development promotes decent employment opportunities by developing workers’ ability to gain and keep jobs, advance and manage change. This can be achieved through capacity development in various human resources in YPs as identified in the objectives of this study, that is, managers, Heads of Department, Instructors and Parents Associations.

The YPs were established to provide self-employment or wage jobs through skills development. The study variables, that is BOMs, PAs are assumed to affect the process of skills development in YPs and eventually influence human capital development. The purpose of this study was to investigate and assess the human resource capacity and its effects on skills development in public YPs. Since this is intended to increase human knowledge, enhance skills, productivity and stimulate resourcefulness of individuals (HCD), the human capital theory was therefore found relevant.

**Literature Review**
Capabilities of personnel are crucial in any change management because of the need for competent human resources. Adequate numbers of qualified, motivated and facilitated human resources and an enabling policy environment are important in increasing institutional capabilities of an organization. (Kakumba, 2011). According to Simiyu 2009, in a study on revitalizing a technical training institute in Kenya, the manager is key not only in resource mobilization but also sets targets and relate them to the vision and mission of the institution. By relating the targets to the vision and mission, the manager brings in the aspirations of various stakeholders. In a study on Sustaining Training Quality in Technical and Vocational Colleges of Oromia Regional State, Ethiopia, Geressu (2014) further established that out of many inputs, the major input that determines the quality of education and training is the quality of the trainer because effective teaching requires individuals who are academically able, technically competent and having command of the subject they are required to teach. Sang, Mbugua, & Muthaa, (2012) also established that that the trainers’ level of qualification is critical in determining the efficiency of the training process. The trainer should possess higher qualification to effectively execute the training duties. According to Ibuathu and Thiaine (2013),
most instructors in YPs do not have the minimum qualifications both academic and professional, required to instruct in YPs. Effective implementation of the curriculum is also influenced by the quality of trainers. Kigwilu and Githinji (2015) in a study on Teacher Factors Influencing Effective Implementation of Artisan and Craft Curriculum in Community Colleges in Kenya, established that trainer factors including qualifications, experience and motivation highly influence the implementation of curriculum. Balwanz (2012) in a study on “Youth Skills Development, Informal Employment and the Enabling Environment in Kenya: Trends and Tensions”, analysis of data from YP trainees, graduates and employers, established important skills gaps. The YP graduates lacked the capacity to use modern machines, equipment and tools, trade knowledge and practical exposure to the world of work. This could be attributed human resource constraints and lack of industrial attachment.

Human resource capacities including instructor qualifications have been identified as crucial in the development of relevant skills in youth polytechnics. Poor human resource capacities therefore could highly contribute to the mismatch between skills development in YPs and the requirements of industry. This study however went beyond instructor qualifications as addressed by other studies and analysed other human resource capacities in YPs that are relevant to skills development.

Methods
This study employed the cross-sectional survey design targeting a population of 1140(N) comprising of District Youth Training Officers (DYTOs), YP managers, Heads of Departments (HoDs) and Primary School Head Teachers. The study applied the stratified, purposive and simple random sampling techniques to obtain a sample of 114(n) respondents from the target population. From the targeted sample of 114 respondents, 109 was reached. The data was obtained through the use of questionnaires, interview schedules and observation schedules. The quantitative data was analyzed using the Statistical Package for Social Sciences (SPSS) computer Program while the qualitative data was analyzed by identifying the main themes, assigning codes to the themes and classifying the responses. The data was then analysed thematically using a research matrix display. The measures of central tendency, frequencies and percentiles were used for analysis. The analysed data was presented in both tabular and graphical formats.

Research Findings and Discussion
Boards of Management
The study established that 94% of YPs sampled had Boards of Management (BOMs). However, according to the managers there were various challenges related to BOM in the YPs that rendered their performance ineffective. For example, most of the BOM members had little knowledge or no exposure about skills development in YPs while others had no basic education and training as required by existing policy framework. The managers reported that that most educated people turned down nomination to members of YPs BOMs. This was especially due to the negative perception about YPs. There was also no organized BOM induction or in-service courses. According to the YP managers most BOMs lacked capacity to manage the institutions. This denied the YPs the vital contribution of the BOM in terms of ensuring provision of required equipment and facilities and the effectiveness and efficiency in the management of the institution. This consequently affected quality of training in the YPs and thus the skills acquired.
Academic and professional Qualification of the YP Managers
The study established that 72.2% of the YP managers had ‘O’ levels certificates while 27.8% had a bachelor degree. According to the District Youth Training Officer (DYTO) the minimum academic qualification for instructors and managers was ‘O’ level certificate and thus all had the required qualifications.

Table 2: Professional qualification of YP managers

<table>
<thead>
<tr>
<th>Professional Qualification</th>
<th>Nairobi</th>
<th>Muranga</th>
<th>Kirinyaga</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree</td>
<td>0.00%</td>
<td>20.0%</td>
<td>75.0%</td>
<td>27.8%</td>
</tr>
<tr>
<td>Higher Diploma</td>
<td>25.0%</td>
<td>0.0%</td>
<td>0.00%</td>
<td>5.56%</td>
</tr>
<tr>
<td>Diploma</td>
<td>75.0%</td>
<td>30.0%</td>
<td>25.0%</td>
<td>38.89%</td>
</tr>
<tr>
<td>Certificate</td>
<td>0.00%</td>
<td>40.0%</td>
<td>0.00%</td>
<td>22.22%</td>
</tr>
<tr>
<td>None</td>
<td>0.00%</td>
<td>10.0%</td>
<td>0.00%</td>
<td>5.56%</td>
</tr>
</tbody>
</table>

It was established that 38.89% of the YP managers had Diploma in Entrepreneurship Education, ICT Studies, Technical Drawing and Sciences and Motor Vehicle Technology trade and 22.22% had Certificate in Craft and Artisan Grade 1 and 2, 27.8% had Degree and 5.56% had Higher Diploma. It is worth noting 5.56% did not have any professional qualification. All the YP managers who had certificate level professional qualification were from Muranga County. In one YP, the manager did not have any professional Qualification. Five of the YP managers had acquired degrees professional qualification. Only 33.3 % of the YP managers had attended ICT Courses while majority of the YP managers had not attended any management course.

According to the DYTOs, although majority of the managers and instructors had adequate experience, academic and professional qualifications they needed refresher courses and workshops to ensure they had the requisite knowledge and skills to keep abreast with emerging issues in technology and labour needs of industry. However, no initiative had been put in place by the county governments to provide capacity development of the managers, instructors and other personnel to upgrade their skills. According to the DYTOs, the managers were expected to privately arrange and fund their skills upgrading process. The failure to upgrade was an impediment to adopting emerging technologies in skills development in YPs. In addition, the YPs managers could not bench mark on best practices due to lack of forums such as exhibitions and apprenticeship. The managers indicated that they also lacked relevant training in financial, material and human resource management. However, they required to update their skills due to the changes in the external and internal environment. For example, in-service training on the new curriculum, financial management and relevant emerging technologies was crucial so that managers could be able to motivate other stakeholders and even play a leading role in adopting the desired change. The managers indicated that they did not have any financial management skills. According to the Asian Development Bank 2013, managers should be equipped with relevant financial management capacities to promote efficiency, reduce risks and ensure implementation of policies. Such capacities include accounting processes, internal controls and audit, financial reporting and monitoring.
Academic and Professional Qualifications of the Heads of Department.

The study analyzed the academic and professional qualifications of the HODs. The table 3 shows the academic qualifications of the HODs.

Table 3: Academic Qualification of the HODs

<table>
<thead>
<tr>
<th>Academic Qualification</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>O levels Certificate (KCSE and KCE)</td>
<td>92.0%</td>
</tr>
<tr>
<td>KCPE</td>
<td>6.0%</td>
</tr>
<tr>
<td>None</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

Majority (92.0%) of the HODs had O levels certificate and 6.0% had KCPE certificate. It is worth noting that, 2.0% had no academic qualification. Considering that the minimum academic qualification for an instructor was “O” level certificate, majority of the instructors were qualified to perform their duties. However, 8% percent were not qualified as they did not possess the minimum O level qualifications required. Table 4 shows the professional qualifications of the HODs

Table 4: Professional Qualification of the HODs

<table>
<thead>
<tr>
<th>Professional Qualification</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree</td>
<td>10.0%</td>
</tr>
<tr>
<td>Higher Diploma</td>
<td>8.0%</td>
</tr>
<tr>
<td>Diploma</td>
<td>42.0%</td>
</tr>
<tr>
<td>Certificate</td>
<td>38.0%</td>
</tr>
<tr>
<td>None</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

The analysis established that 42% of the heads HODs had Diploma in Building Technology, Food processing Technology, Entrepreneurship Education, ICT Studies, Technical Drawing, Hair dressing and Beauty Therapy and Motor Vehicle Technology. 38% had certificate in Craft and Artisan Grade 1, 2 and 3. Two percent had no professional Qualification. Lack of academic and professional qualifications was a drawback in the attempt to introduce the new curriculum. The manager reported that the instructor could not prepare the trainees for any theory examinations. The 38% who had artisan and craft certificates had not met the minimum professional qualifications for an instructor which was at least a diploma. They were therefore considered unsuitable for the duties they were carrying out.

The office of the HOD was found relevant considering coordination that was required in each department. This was also in line with the practice in educational and training institutions. According to the HODs, their duties included coordination and actual performance of the following duties in their departments; actual teaching, both theory and practical in their subject area, co-
curricular activities, preparing and keeping relevant records; learners assessment; proper care and maintenance of tools and equipment; maintaining trainees discipline; guidance and counseling of trainees; preparation of budgets for their departments; and any other duties as may be assigned from time to time. However, in some YPs there was only one instructor per course who also acted as the HOD.

**Academic and Professional Qualification of the Instructors**

The study also analyzed academic and the professional qualifications of the instructors. Table 5 shows the academic and the professional of the instructors.

**Table 5: Academic qualification of Instructors**

<table>
<thead>
<tr>
<th>Academic Qualification</th>
<th>Nairobi</th>
<th>Kirinyaga</th>
<th>Muranga</th>
<th>Overall Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>O levels</td>
<td>100%</td>
<td>100%</td>
<td>88.0%</td>
<td>93.3%</td>
</tr>
<tr>
<td>KCPE</td>
<td>0.00%</td>
<td>0.00%</td>
<td>6.00%</td>
<td>3.33%</td>
</tr>
<tr>
<td>KJCE</td>
<td>0.00%</td>
<td>0.00%</td>
<td>4.00%</td>
<td>2.22%</td>
</tr>
<tr>
<td>None</td>
<td>0.00%</td>
<td>0.00%</td>
<td>2.00%</td>
<td>1.11%</td>
</tr>
</tbody>
</table>

The study established that 93.3% of the Instructors had ‘O’ level certificate while 1.11% had no academic qualification. All the instructors from Kirinyaga and Nairobi Counties had ‘O’ levels education while 2% of the Instructors in Muranga County had no academic Qualification. While majority of the instructors had the minimum academic qualifications of ‘O’ level certificate, 6.66 of the instructors did not meet the minimum qualifications and could therefore be considered unsuitable to carry out the duties they were undertaking in the YPs. Although the percentage of instructors who did not meet the minimum qualifications was low, this could have an overall adverse effect on skills development considering that the graduates affected would be affected through lack or low acquisition of skills.

The study also analyzed the professional qualifications of the instructors as table 1.6 shows.

**Table 6: Professional qualification of Instructors**

<table>
<thead>
<tr>
<th>Professional Qualification</th>
<th>Nairobi</th>
<th>Muranga</th>
<th>Kirinyaga</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree</td>
<td>10.5%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>2.22%</td>
</tr>
<tr>
<td>Higher Diploma</td>
<td>21.1%</td>
<td>2.0%</td>
<td>4.8%</td>
<td>6.67%</td>
</tr>
<tr>
<td>Diploma</td>
<td>42.1%</td>
<td>46.0%</td>
<td>57.1%</td>
<td>47.78%</td>
</tr>
<tr>
<td>Certificate</td>
<td>26.3%</td>
<td>50.0%</td>
<td>38.1%</td>
<td>42.22%</td>
</tr>
<tr>
<td>None</td>
<td>0.00%</td>
<td>2.0%</td>
<td>0.00%</td>
<td>1.11%</td>
</tr>
</tbody>
</table>
Analysis on the professional qualifications of the instructors showed that 47.78% of the Instructors had Diploma in Building Technology, Electrical and Electronic technology, Fashion Design and Garment Making Technology, Hair dressing and Beauty Therapy, Information Communication Technology, Modern Methods of Agriculture and Motor Vehicle Technology.42.22% had certificate in Craft, Fashion design and Garment making technology, Information Communication Technology and Appropriate Carpentry and Joinery and Artisan Grade 1, 2 and 3. 1.11% had no professional qualification. 6.67% had Higher Diploma in Electrical and electronic Technology, Entrepreneurship Education, ICT Studies, Technical Drawing and Motor Vehicle Technology and 2.22% had a degree. In Muranga County, 50.0% of the instructors had Certificate while 42.1% and 57.1% of the Instructors in Nairobi and Kirinyaga County respectively had Diploma.

This study therefore, established the existence of instructor qualification inadequacies in curriculum implementation in the YPs. Instructors without a certificate and those with only a certificate were not qualified to implement the new curriculum and even the old curriculum beyond their qualifications. In a study on factors influencing acquisition of vocational skills Baituti (2014) was concerned with establishing the level of tutors’ qualification and experience as well as the impact on acquisition of vocational skills. It was established that there was a relationship between students’ performance and tutors’ qualification at 90.5 percent confidence level. It was concluded that the performance of learners and qualification of tutors were statistically significant.

According to the DYTO’s, instructors were employed by the county governments at the grade of Youth Polytechnic Instructor III - Job Group ‘H’. Their duties and responsibilities included, teaching theory and practical instruction in their subject areas; preparing and maintaining relevant records; trainee assessment; ensuring proper care and maintenance of tools and equipment; conducting co-curricular activities; maintaining trainees discipline; guidance and counseling of trainees; preparation of departmental budgets; and any other duties as may be assigned from time to time. For appointment to this grade, the minimum qualifications were KCSE D+ and above, diploma in technical Education or ordinary diploma in the discipline of specialization and certificate in instructor training. It was therefore evident that some of the instructors (43.33%) lacked the minimum professional qualifications. This was a big gap in skills development in the YPs.

The study also sought to establish the years of experience of the YP Managers and the HODs Table 7 shows the years of experience of the respondents.

Table 7: Years of Experience of the Managers and the HODs

<table>
<thead>
<tr>
<th>Range Years</th>
<th>YP managers</th>
<th>HOD’s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Current Station</td>
<td>Other stations</td>
</tr>
<tr>
<td>0-5</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>6-10</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>11-15</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>16-20</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Above 20</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Mean</td>
<td>4.9</td>
<td>4.9</td>
</tr>
<tr>
<td>SD</td>
<td>4.2</td>
<td>8.3</td>
</tr>
</tbody>
</table>
As shown in Table 7, on average, the YP managers had worked in their current station and other stations for 4.9 years. The HODs had worked for an average of 5.3 years in their current station and 6.8 years in other stations. Most of the managers and HODs had worked in their current station and in other stations between the range of 0-5 years. According to the Human Resource Policies and Procedures Manual for the Public Service Commission of Kenya (2015), officers on probation shall be confirmed after six months subject to the provisions of the Employment Act. An officer appointed on probation to the pensionable establishment shall be regarded as being on assessment with a view to learning his work and being tested as to his suitability for it. All the respondents were therefore considered to have gained the necessary experience to perform their duties. According to Republic of Kenya, (2011e) graduates of YPs lack adequate skills and experience difficulty in using modern equipment. This can be attributed to the human resource capacity gaps in YPs as established in this study.

Conclusions
The study established various inadequacies related to human resource in YPs. The study established existence of instructor academic and professional qualifications inadequacies where some instructors and managers lacked the minimum professional and academic qualifications. This affected the quality of skills development in YPs. The findings that the instructors including some HODs and managers were deficient in terms of academic and professional qualifications rendered the human resource in YPs inadequate. The capacity gaps led to inadequate training and low enrolment of trainees in YPs.

Recommendations
The government should enforce the process of skills development in YPs though relevant legislation. This should ensure staff training and development, employment of adequate and qualified instructors with salaries and allowances commensurate with their duties. The government should develop guidelines on the training and recruitment of instructors, HODs and managers. This should include registration of the instructors as done in other professions. Pre-service, induction and in-service training should be made mandatory for all YP managers and instructors. All managers and instructors should be trained on relevant areas including pedagogical skills, leadership and management skills, ICT, financial management and procurement laws and policies. The government should develop guidelines on recruitment and induction of BOM members in order to ensure the YPs attract qualified and resourceful members. Parents associations should be enforced through relevant guidelines.
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