



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

**NEEDS ASSESSMENT ON CURRICULUM REFORM
FOR TERTIARY LEVEL IN KENYA**

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT
P.O BOX 30231- 00100
NAIROBI
TEL: 3749900-9
Email info@kicd.ac.ke
www.kicd.ac.ke

JUNE 2016

FOREWORD

Kenya effected the last curriculum reform in 1985, when there was a shift from the 7-4-2-3 System to the 8-4-4 system. The purpose of this move was to provide a curriculum that would help learners to gain practical skills and competences to enable them become self-reliant and enable grandaunts of the system to create jobs. The Teacher Education Curriculum was reviewed in 2004.

Over the years, education in Kenya has been guided by the prevailing national goals identified through the establishment of various Education Commissions and situational analyses of the educational needs of the country. Currently, the sector seeks to align education to the Constitution of Kenya, 2010 and the Kenya Vision 2030 guided by national education policies and international agreements. These include the Sessional paper No 2 of 2015, National Education Sector Plan (NESP), Education for All (EFA) and the Millennium Development Goals (MDGs). This needs assessment was carried out in order to ascertain the fundamental expectations of Kenyans as the basis for designing relevant and quality curricula for tertiary level of education in tandem with the aspirations of the nation.

This needs assessment study provides the basis on which the Ministry of Education Science and Technology and policy-makers will make critical decisions to set the various tertiary level learning areas. This will drive the education sector reforms that should lead the country to achieving the tenets of the Constitution of Kenya 2010 and the Kenya Vision 2030.

PROF. ERASTUS P. KINYANJUI
CHAIRMAN
KICD COUNCIL

ACKNOWLEDGEMENT

On behalf of the Kenya Institute of Curriculum Development, i wish to acknowledge the generous contributions of many people in making possible this Needs Assessment for Curriculum reform. Special mention goes to the ministry of Education Science and Technology for the direction and support in facilitating access to schools, Development partners who were instrumental in providing the necessary technical and financial support for this undertaking.

We gratefully acknowledge the teams of experts from universities and other research Institutions who contributed immensely to shaping the process of this Needs Assessment since its inception and the many stakeholders who attended the many meetings towards shaping and focusing the direction of this activity. We also extend our sincere gratitude to the respondents who were willing to collaborate, give and arrange access to information needed for this study. Special mention goes to all those who took their time to write and send Memoranda towards this noble task.

We further appreciate the officers who participated in data collection exercise from various institutions including; Ministry of Education, Kenya Institute of Special Education, Kenya Education Staff Institute, Teachers Service Commission, CEMASTEIA and Universities. Special thanks go to the teams who tirelessly worked to analyze the data and write the report.

DR. JULIUS O. JWAN
DIRECTOR/CEO
KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

ABSTRACT

This study was a needs assessment for curriculum reform for tertiary level in Kenya. Its objectives were to establish the desired general needs, competencies, content/learning areas, resources, pedagogical approaches, talent nurturing, crosscutting issue and assessment modes for curriculum reform for tertiary level. The study adopted the pragmatist research philosophy and a mixed methods .Survey design was used in this study and questionnaires, observation guides, interview guides and focused group discussions were used. The study targeted all TTC and TVET institutions and their trainees, principals, lecturers, parents, education field officers, workers in the informal sector and industry and other stakeholders. The study employed a multi-stage sampling technique. The findings indicate the need for a curriculum reform to contribute towards the social, technological and economic development of the country and to negate social vices such as corruption, tribalism and insecurity. The reform is desired to enhance development of practical skills, with more time spent in the actual work. The reform should enhance mastery of skills in mentorship, collaborative learning, creativity, innovation, entrepreneurship, leadership, nurturing of talents and management. The pedagogical approaches should be participatory, experiential and learner centered .Most of the teaching and learning resources in tertiary institutions are inadequate or unavailable. The study recommends teachers should be taught how to nature talents ,the government should train head teachers and teachers on competency based curriculum, MOEST should lengthen the teaching practice period and the marks awarded for it be raised, talent academies should be established by MoEST, the National Government should increase the grants given to tertiary institutions. KNEC should adopt assessment modes which strike a meaningful balance between formative and summative assessment. TSC should train trainers on assessment modes to enable them assesses the competence based curriculum effectively and MoEST should consider grade test mode of assessment for TVET.

TABLE OF CONTENTS

LIST OF TABLES	x
LIST OF FIGURES	x
ABBREVIATIONS AND ACRONYMS	xiii
CHAPTER ONE	1
1.0 BACKGROUND TO THE STUDY	1
1.1 Introduction.....	1
1.2 Context of the Study	4
1.3 Statement of the Problem.....	8
1.4 Research Objectives.....	10
1.5 Scope of the Study	10
1.6 Rationale for the Study Based on the Context	10
CHAPTER TWO	12
2.0 REVIEW OF RELATED LITERATURE	12
2.1 Introduction.....	12
2.2 Definition of Key Concepts	12
2.2.0 General Overview	12
2.2.1 Curriculum.....	12
2.2.2 Learning Areas	14
2.2.3. Competencies.....	14
2.2.4 Values and Attitudes	15
2.2.4 Pedagogy.....	16
2.2.5 Resources	17
2.2.6 Assessment.....	17
2.2.7 Crosscutting Issues.....	18
2.2.8 Talents.....	18
2.3 Situating the Study within the Field of Education and Curriculum Discipline.....	20
2.4 Review of Relevant Theories.....	22
2.4.0 General Overview	22
2.4.1 Curriculum Theory.....	22
2.4.1.1 Humanists	22
2.4.1.2 Social Meliorism.....	22
2.4.1.3 John Dewey's Curriculum Theory	23
2.4.1.4 Social Efficiency.....	23
2.4.1.5 Developmentalism.....	23
2.4.2 Curriculum Reform Theories.....	24
2.4.2.1 Importance of Instructional Design Theory in Curriculum.....	24
2.5 Review of Relevant Policy Documents	25

2.5.0.	General Overview	25
2.5.2	Competencies	28
2.5.3	Values and Attitudes	29
2.5.4	Learning Areas.....	30
2.5.5	Assessment.....	30
2.5.6	Resources	31
2.5.7	Crosscutting Issues.....	32
2.5.8.	Talents.....	33
2.6	Review of Curriculum in Other Contexts	33
2.6.1	General Overview	33
2.6.2	Societal Needs.....	34
2.6.3	Competencies.....	35
2.6.4	Global Views on Values and Attitudes in Education.....	38
2.6.5	Learning Areas.....	40
2.6.6	Assessment.....	41
2.6.7	Pedagogy.....	43
2.6.8	Resources	43
2.7	Review of Relevant Previous Research	43
2.7.0	General Overview	43
2.7.1	Societal Needs.....	44
2.7.2	Competencies.....	45
2.7.3	Learning Areas.....	46
2.7.4.	Resources	46
2.7.5	Pedagogy.....	47
2.7.6	Talents.....	48
2.7.7	Assessment.....	51
2.7.8	Crosscutting Issues	52
2.8	Rationale of the Study Based on Literature Review	52
CHAPTER THREE		54
RESEARCH METHODOLOGY.....		54
3.1	Introduction.....	54
3.2	Research Paradigm.....	54
3.4.1	Target Population.....	54
3.4.2	Sampling Technique	55
3.4.3	Sampling Procedure for the Quantitative Data	55
3.4.4	Sampling for the Qualitative Data	55
3.5	Research Instruments	56
3.6	Pilot Study.....	57
3.7	Data Generation Process	57

3.8	Validity of the Study	57
3.9	Reliability of the Study	58
3.10	Data Analysis	58
	CHAPTER FOUR.....	59
	FINDINGS AND DISCUSSIONS	59
4.0	Introduction.....	59
4.1	Teacher Education Needs	59
4.1.1	Introduction to Teacher Education Needs.....	59
4.1.2	General Teacher Education Needs.....	59
4.1.3	Teacher Education Competencies.....	66
4.1.3.1	Communication Competences	66
4.1.3.2	Creativity Competences	67
4.1.3.3	Collaboration Competences	69
4.1.3.4	Critical Thinking Competences	71
4.1.4.1	Extent to Which Art and Design Should be Emphasized in Teacher Education Curriculum.....	74
4.1.4.2	Extent to Which Agriculture, Technology, Vocational and Technical Subjects Should be Emphasized in Teacher Education Curriculum	75
4.1.4.3	Extent to Which Physical Education Should be Emphasized in the Teacher Education Curriculum.....	77
4.1.4.4	Extent to which Humanities should be Emphasized in the TTC curriculum	78
4.1.4.5	Extent to Which Environment and Climate Change Should be Emphasized in the TTC curriculum	80
4.1.4.6	Extent to which Financial Subjects Should be Emphasized in the Teacher Education Curriculum.....	81
4.1.4.7	Extent to which 21 st Century Subjects Should be Emphasized in the Teacher Education Curriculum.....	82
4.1.4.8	Extent to which Home Science Subjects Should be Emphasized in the Teacher Education Curriculum.....	83
4.1.5.1	The 21 st Century Teaching Strategies	88
4.1.5.2	Practical Methods of Teaching	89
4.1.5.3	Learners' Activity Based Approaches	90
4.1.5.4	Experiential Learning Approaches	91
4.1.5.4	Lecture Method.....	93
4.1.6	Teacher Education Talents Identification and Nurturing.....	94
4.1.6.1	How to Nurture Talents	95
4.1.7	Teacher Education Assessment.....	99
4.1.8.1	Support.....	105
4.1.9	Teacher Education Contemporary and Crosscutting Issues.....	106

4.2	TVET Needs	109
4.2.1	Introduction to TVET Needs	109
4.2.2	General TVET Needs.....	109
4.2.3	TVET Competencies.....	113
4.2.3.1	Communication Competences	113
4.2.3.2	Creativity Competences	115
4.2.3.3	Collaborations Competences	116
4.2.3.4	Critical Thinking Competences	118
4.2.3.5	Values and Attitudes	119
4.2.4	TVET Content / Learning Areas.....	121
4.2.4.1	Extent to Which Art and Design Should be Emphasized in TVET Curriculum	121
4.2.4.2	Extent to Which Agriculture, Technology, Vocational and Technical Subjects Should be Emphasized in TVET Curriculum.....	122
4.2.4.3	Extent to Which Physical Education Should be Emphasized in TVET Curriculum.....	123
4.2.4.4	Extent to which Humanities should be Emphasized in TVET Curriculum	124
4.2.4.5	Extent to Which Environment and Climate Change Should be Emphasized in the TVET Curriculum.....	125
4.2.4.6	Extent to Which Financial Subjects Should be Emphasized in TVET Curriculum	126
4.2.4.7	Extent to Which 21 st Century Subjects Should be Emphasized in TVET Curriculum.....	128
4.2.4.8	Extent to Which Home Science Subjects Should be Emphasized in TVET Curriculum.....	129
4.2.5	TVET Teaching and Learning Resources.....	132
4.2.5.1	TVET Support.....	134
4.2.6	TVET Pedagogical Approaches.....	135
4.2.6.1	The 21 st Century Teaching Strategies	136
4.2.6.2	Practical Methods of Teaching	137
4.2.6.3	Learners' Activity Based Approaches	138
4.2.7	TVET Talents Identification and Development.....	142
4.2.7.1	Talent Identification and Nurturing	142
4.2.8	TVET Assessment	146
4.2.9	TVET Crosscutting Issues	150
	CHAPTER FIVE	153
	SUMMARY, CONCLUSION AND RECOMMENDATIONS	153
5.1	Teacher Education Summary	153
5.2	TVET Summary.....	155

5.4	TVET Conclusion	158
5.6	Teacher Education Recommendations.....	159
5.7	TVET Recommendations.....	160
	REFERENCES	162
	Instruments.....	166
	Appendixes	211
	Appendix 1.....	211
	CODES	211

LIST OF TABLES

Table 1.1: 21 st Century skills	5
Table 2.1: Values	39
Table 3.1: Targeted Organizations	55
Table 3.2: Sampled Size of Respondents From TTC and TVET Institutions	56
Table 3.3: Sampled Size of Field Officers, Key Informants and Industry	56
Table 4.1: Ways of Nurturing Talents of Learners According to TTC Principals and Lecturers....	96
Table 4.2: Availability of TTC Teaching and Learning Resource	103
Table 5.1: Key Informants	214
Table 5.2: Teacher Training Collages Visited.....	216
Table 5.3: TVET Institutions Visited.....	217

LIST OF FIGURES

Figure 2.1: Kenya Vision 2030	20
Figure 2.2: Developmental Skills for Learning	37
Figure 4.1: Responses of Teacher Training College Lecturers and Principals on Societal Needs .	60
Figure 4.2: Responses of TTC Lecturers and Principals on the Extent to Which Communication, Competencies should be Emphasized in Curriculum.....	66
Figure 4.3: Lecturers' and Principals' Responses on the extent to which Competencies classified under Creativity should be emphasized in the Curriculum	68
Figure 4.4: TTC Principals and Lecturers Responses on the Extent to Which Competencies under Collaboration should be Emphasized in the TTC Curriculum	69
Figure 4.5: TTC Principals and Lecturers Responses on the Extent Critical Thinking Competencies Should be Emphasized in the Curriculum	72
Figure 4.6: TTC Principals and Lecturers Responses on the extent to which Art and Design should be Teacher Education Curriculum.	75
Figure 4.7: Responses on the Extent to which Agriculture, Technology, Vocational and Technical Subjects should be Emphasized in Teacher Education Curriculum	76
Figure 4.8: Principals and Lecturers Responses on the Extent to which Physical Education Should be Emphasized in the Teacher Education Curriculum	77
Figure 4.9: Principals and Lecturers Responses on the Extent to which Humanities Should be Emphasized in the Teacher Education Curriculum.	78
Figure 4.10: TTC Principals and Lecturers Responses on the Extent to Which Environment and Climate Changes Should be Emphasized in the teacher Education Curriculum	80

Figure 4.11: TTC Principals and Lecturers Responses on the Extent to Which Financial Subjects Should be Emphasized in Teacher Education Curriculum	81
Figure 4.12: Principals and Lecturers Responses on the Extent to Which 21st Century Subjects Should be Emphasized in the Teacher Education Curriculum	82
Figure 4.13: TTC Principals and Lecturers Responses on the Extent to Which Home Science Subjects should be Emphasized in Teacher Education Curriculum	84
Figure 4.14: Responses of TTC Lecturers and Principals on Emphasis of the 21st Century Teaching Approaches.....	88
Figure 4.15: Responses by TTC Lecturers and Principals on Practical Based Approaches.....	89
Figure 4.16: Responses of TTC lecturers and Principals on Learners’ Activity Based Approaches	91
Figure 4.17: Responses of TTC Lecturers and Principals’ on Experiential Learning Approaches	92
Figure 4.18: Lecture Method.....	93
Figure 4.19: Responses of Lecturers and Principals on Assessment Modes at Teacher Education level.....	100
Figure 4.20: Rating of Emphasis of Crosscutting Issues in Teacher Education Curriculum by TTC Principals’ and Lecturers’	107
Figure 4.21: Responses of TVET Lecturers and Principals on Extent of Emphasis of Societal Needs in Curriculum	110
Figure 4.22: Responses of TVET Lecturers and Principals on the Extent to Which Communication, Management and Leadership Competencies Should be Emphasized in the Curriculum	114
Figure 4.23: TVET Lecturers’ and Principals’ Responses on the Extent to which Competencies classified under Creativity should be emphasized in the Curriculum	115
Figure 4.24: TVET Principals’ and Lecturers’ Responses on the Extent to Which Competencies Under Collaboration Should be Emphasized in the TTC Curriculum.....	117
Figure 4.25: TVET Principals and Lecturers Responses on the Extent Critical Thinking Competencies Should be Emphasized in Curriculum	118
Figure 4.26: TVET Principals and Lecturers Responses on the extent to which Art and Design should be Emphasized in Curriculum	122
Figure 4.27: Extent Agriculture, Technology, Vocational and Technical Subjects Should be Emphasized in TVET Curriculum	123
Figure 4. 28: Principals and Lecturers Responses on the Extent to which Physical Education Should be Emphasized in the Teacher Education Curriculum	124
Figure 4.29: Principals and Lecturers Responses on the Extent to which Humanities Should be Emphasized in the TVET Curriculum.....	125
Figure 4.30: TVET Principals and Lecturers Responses on the Extent Environment and Climate Changes Should be Emphasized in Curriculum	126

Figure 4.31: TVET Principals and Lecturers Responses on the Extent to Which Financial Subjects Should be Emphasized in TVET Curriculum.....	127
Figure 4.32: Principals and Lecturers Responses on the Extent to Which 21st Century Subjects Should be Emphasized in TVET Curriculum.....	128
Figure 4.33: Extent to Which Home Science Subjects Should be Emphasized in TVET Curriculum	129
Figure 4.34: Availability of TVET Teaching and Learning Resource	132
Figure 4.35: Responses by TVET Teachers and Principals on 21stCentury Learning Approaches	136
Figure 4.36: Responses by TVET Lecturers and Principals on Practical Based Approaches	137
Figure 4.37: Responses by TVET lecturers and Principals on Learners Activity Based Approaches	138
Figure 4.38: Responses by TVET Lecturers and Principals on Experiential Learning Approaches	139
Figure 4.39: Lecture Method.....	140
Figure 4.40: TVET Principals and Lecturers Responses on Ways of Nurturing Talents of Students	143
Figure 4.41: Rating of Formative Assessment Modes by TVET Lecturers and Principals.....	146
Figure 4.42: Rating of Summative Assessment Modes by TVET Lecturers and Principals	147
Figure 4.43: Rating of Crosscutting Issues for Emphasis in TVET Curriculum by Principals and Lecturers	150

ABBREVIATIONS AND ACRONYMS

ABE	-	Adult Basic Education
AIDs	-	Acquired Immune Deficiency Syndrome
CBE	-	Competence Based Education
EAC	-	East African Community
EARC	-	Education Assessment Resource Centre
ECD	-	Early Childhood Development
ECDE	-	Early Childhood Development and Education
EFA	-	Education for All
ESD	-	Education for Sustainable Development
ESQAC	-	Education Standards Quality Assurance Council
GOK	-	Government of Kenya
HIV	-	Human Immune Deficiency Virus
IBE	-	International Bureau of Education
ICT	-	Information Communications Technology
KICD	-	Kenya Institute of Curriculum Development
KIE	-	Kenya Institute of Education
KNEC	-	Kenya National Examination Council
MDGs	-	Millennium Development Goals
MoEST	-	Ministry of Education Science and Technology
NESP	-	National Education Sector Plan
NFE	-	Non Formal Education
REAR	-	Research Academic Reform
SDGs	-	Sustainable Development Goals
SNE	-	Special Needs Education

SPSS	-	Statistical Package for Social Sciences
STI	-	Science, Technology, and Innovation
TIMSS	-	Trends in International Mathematics and Science Survey
TSC	-	Teachers Service Commission
TTC	-	Teacher Training Colleges
UNESCO	-	United Nations Education Scientific Cultural Organization
UPE	-	Universal Primary Education

CHAPTER ONE

1.0 BACKGROUND TO THE STUDY

1.1 Introduction

Global and national education authorities around the world, through different approaches, are seeking innovative curriculum solutions to improve the quality and relevance of student learning, and to enable their students to apply their learning to the challenges and opportunities they encounter throughout their lives. While knowledge and education are considered among the major factors contributing to the reduction of poverty, sustainable development and economic growth - it is the curriculum that is increasingly viewed as the foundation of educational reforms that are aimed at achieving high quality learning outcomes. Thus, the curriculum represents a conscious and systematic selection of knowledge, skills and values which shape the way teaching and learning processes are organized, by addressing questions related to what students should learn, why, when and how (UNESCO, 201 Teachers play an important role in the realization of the country's education goals as facilitators in the learning process. They are expected to lead the learners in acquiring and developing desired knowledge, skills, attitudes and values which enable them to be responsible and productive members of the society, thus contributing to national development.

Since Independence in 1963, education in Kenya has undergone many changes as reflected in various education commissions and reports. However, teacher education has not changed at the same pace. This has placed numerous challenges and demands on teachers, making the quality of the teacher a subject of great concern for many stakeholders. There is need to constantly reform Teacher Education programmes in order to make teachers responsive to demands and challenges of the changing society.

The Government recognizes that quality teachers' training is key to the provision of quality education and training. The Sessional Paper No.6 of 1988 on Education and Manpower Training for the Next Decade and beyond emphasizes the need for quality teacher training. The Sessional Paper No.1 of 2005 also emphasizes the importance of teachers as a critical resource in effective curriculum delivery. Their training and utilization therefore requires critical considerations. The current programme for teacher education aims at providing qualified teachers and is, therefore central to the provision of teachers at all levels of learning which are Pre-primary, Primary, Secondary, Special, Vocational and Technical Education. The Teacher Education programmes aim at developing communication skills, professional competences, attitudes and values that equip the teacher with the knowledge and ability to identify and develop the educational needs learners.

The Primary Teacher Education (PTE) aims at preparing teachers to competently teach in primary schools. It's a two-year, residential programme. The teacher is trained to teach all the subjects offered in the primary school curriculum. The entire curriculum is too wide to be covered in two years, while at the same time acquiring the requisite pedagogical skills. In addition, there is need for the PTE curriculum to encompass emerging issues. The curriculum at this level should also place more emphasis on child-centered approaches in teaching so as to enhance both quality learning achievements and motivation.

The Diploma in Teacher Education (DTE) aims at preparing teachers to competently teach in secondary schools and technical Institutes. The current DTE syllabus of 2007 is an improvement of the DTE syllabus which was developed in 1992. In recent years, views and suggestions for the improvement of the DTE curriculum have targeted the structure and specific elements of the teacher education programme to make it responsive to the changes in the society.

Notably, “The Third Teacher Education Conference”, held in 2000, and the Brainstorming meeting for Teacher Education stakeholders held in 2005, gave suggestions that necessitated the review of the DTE curriculum. Issues addressed in the revised curriculum include: harmonization of the teacher education curriculum with the current revised secondary school curriculum, making the curriculum manageable and evaluative by removing overloads and overlaps, infusing and integrating contemporary issues in order to make the curriculum more responsive to the needs of the society, and incorporating industrial and technological development.

Technical teacher education is offered at the Kenya Technical Teachers College in Nairobi which trains diploma level teachers for secondary schools, technical training institutes, primary teachers’ colleges, institutes of technology and vocational polytechnics. The Special needs education teacher education is provided to professionally qualified practicing teachers through a two-year diploma programme at the Kenya Institute of Special Education (KISE).

Currently, learning in primary and secondary schools is dominated by transmission forms of teaching in which the pupils are passive, and are expected to recall facts when required to. This approach can only be changed through a reform of Teacher Education Curriculum.

The Early Childhood Development and Education (ECDE) teacher education programme train teachers through in-service courses in District Centers for Early Childhood Education (DICECEs). With the establishment of ECD section at the MOE and NACECE at KIE in 1984, the Ministry of Education established defined levels of training in ECDE intended to equip the trainers and the teachers with the necessary knowledge skills and attitudes desired to stimulate children’s growth and development and also prepare them for primary education. The

training of trainers induction course organized by KIE was a nine-month training, which later in 1995 culminated into establishment of ECDE degree courses in the public and private universities. The second level of training was a two-year in-service certificate course for pre-school teachers who had at least a secondary level of education and an alternative course for those ECD teachers with at least KCPE certificate.

The development of the ECDE diploma course was due to the high demand for advanced training in ECDE. It provided an opportunity for professional upward mobility in the Early Childhood Development and Education (ECDE). There was need to elevate the induction course to make it more academic so as to allow for more advanced training among the ECDE personnel. It bridged the gap between the certificate and the degree course in ECD offered at the university level. A Needs assessment survey carried out in 1996/7 established the need to upgrade the induction course offered to ECD teacher trainers. To establish the content of the course, a follow up was done by NACECE in 1999/2000. Consequently KIE through NACECE then developed the ECDE diploma teacher training curriculum in 2005 and implemented it in public and private ECD training institutions from March 2006. The ECD diploma curriculum is a two- year in-service course or a 1 year pre service course and is evaluated and certificated by KNEC.

1.2 Context of the Study

The Kenya Institute of Curriculum Development (KICD) is the national curriculum development centre established through the KICD Act No. 4 of 2013 of the laws of Kenya. The Institute's core function is to initiate and conduct research to inform curriculum policies, review and development. The Institute is charged with the development, evaluation and approval of curricular and curriculum support materials except for the university. The Institute also organizes and conducts professional development programmes for teachers, teacher trainers,

quality assurance and standards officers and other officers involved in education and training on curriculum programmes and materials. The last review of the curriculum in Kenya was undertaken in 2002.

During the World Education Forum of Dakar 2000, in Senegal, 164 governments pledged to achieve Education for All (EFA) and the eight Millennium Development Goals (MDGs) by 2015. This resolution propelled provision of access to education in many countries with high levels of enrolment being registered at both primary and secondary levels. The number of youth exiting from school into the world of work has increased yet scientific and technological progress is making most training obsolete, in no time (World Bank, 2014). Hence, education systems everywhere face serious challenges and dilemmas, in the task of preparing current and future citizens in a rapidly changing world.

The overarching goal for the post 2015 agenda is to ensure equitable and inclusive quality education for all by 2030. Both developed and developing countries are currently at varying levels, devising strategies, developing curriculum and education pathways that enable learners to acquire the multi, flexible and diversified competencies for learning for life. In addition, sustainable development demands that every human being acquires the 21st Century skills which include the following:

Table 1.1: 21st Century skills

Learning and Innovation Skills	Information, Media and Technology Skills	Life and Career Skills
Critical Thinking and Problem Solving	Information Literacy	Flexibility and Adaptability
Creativity and Innovation	Media Literacy	Initiative and Self-Direction
Communication	ICT (Information, Communications and technology) literacy	Social and Cross-Cultural Skills
Collaboration		Productivity and Accountability

In the last two decades, investment in education in Sub-Saharan Africa has not translated into functional knowledge and skills that can transform individuals and economies in which they live (EFA Global Monitoring Report, 2012). There have been consistent wastage rates reflected in the fact that only 30% of the age cohort's complete junior secondary education while only 12% complete the full secondary cycle (World Bank, 2007). The African Economic Outlook (2012) recognizes the pivotal importance of education and appropriate skills as the prevailing solution to mitigating unemployment and vulnerable employment among the youth. It calls for a review, and reform of curricula to prepare youth for knowledge intensive economies. This can be achieved by making provisions for curricula that intricately balances opportunities to pursue skills acquisition in academics, technical and vocational skills education.

The East African Community (EAC) treaty emphasizes cooperation and integrated investments especially in education and research. It aims at preparing citizens to operate and collaborate effectively in a globalized economy (EAC, 2013). The states propose to develop harmonized programmes for the primary, secondary and tertiary education cycles. The EAC Partner States anticipate that a common framework will promote equal access to education opportunities, harmonized quality assurance and accreditation systems, whose benefits will include free movement of goods and services and people (EAC, 2014).

Kenya affected the last curriculum reform in 1985, when there was a shift from the 7-4-2-3 System to the 8-4-4 system. The purpose of this move was to provide a curriculum that would help learners to gain practical skills and competences to enable them become self-reliant. The curriculum was reformed from one that geared the learners towards white collar jobs, to a more practical oriented curriculum that would enable graduands to generate jobs. Kenya Vision 2030 is the country's new development blueprint covering the period 2008 to 2030. It

aims to transform Kenya into a newly industrializing, “middle-income country providing a high quality life to all its citizens by the year 2030”. The Vision places great emphasis on the link between education and the labour market and the need to create entrepreneurial skills and competences. Specific to education, the Vision envisages a reform in secondary education and modernization of the primary teacher education programmes. This expectation has far reaching implications on all the other levels of education before and after secondary education to ensure smooth transition from one level to the next. As such there will be need to address issues related to quality, service delivery, curriculum, relevance, teacher development and management at all levels as well as trainers in the areas of technology and entrepreneurial skill development.

The Constitution of Kenya 2010 advocates for free and compulsory basic education. It also introduced the national and county governments, which gave rise to changes in the administrative and organizational structures of various offices and services. This had implications in education as this information needed to be incorporated in the curriculum and had to be tandem with the administration of the county and national governments as well as other fundamental institutions. The task force on “Re-alignment of education and training to the Constitution of Kenya” was commissioned in 2010 to advice on how education would be reformed to cater for the aspirations of the Kenya Vision 2030, and be realigned to the Constitution of Kenya 2010. The task force report emphasized the need for the following:

1. Structuring of the curriculum within competence framework that identifies the knowledge, skills, values and attitudes to be incorporated at each level e.g. entrepreneurial skills;
2. Addressing local needs by including the study of local knowledge and culture;

3. Providing pathways to give equal opportunity to all learners to recognize their talent and achieve their full potential; and
4. Integrating ICT in the curriculum as a key driver of a knowledge-based economy.

Sessional Paper No. 2 of 2015, “Reforming Education and Training in Kenya”, recognizes that in order to realize the national development goals, relevant and quality education and training is required to meet the human development needs of a rapidly changing and a more diverse economy. The policy recommends reforming the education and training sector to provide for the development of individual potential in a holistic and integrated manner, while producing individuals who are intellectually, emotionally and physically balanced. It further recommends a competency based curriculum; establishment of a national learning assessment system; early identification and nurturing of talents; introduction of national values, national cohesion and integration in the curriculum, integration of ICT in the education system and introduction of learning pathways that ensure every learner graduates from the education system with competencies that empower them to exploit their full potential (MoEST, 2015). In this regard therefore, the curriculum reform seeks to shift the Kenyan curriculum to a competence based curriculum.

1.3 Statement of the Problem

The fast paced growth of the global economy requires competitive youths with relevant work and life skills that match the growing economies. The recent global economic downturn has further signaled an urgent need to deal with youth unemployment and inequality effectively (OECD, 2012a). Reforms in tertiary education must be targeted towards providing broader curriculum areas based on skill centered approaches, and appropriate knowledge from non-academic sources (World Bank, 2014). It further implies that the future of achievements in

education and training are anchored on curricula that are progressively changing to guarantee growing opportunities for the youth. Curriculum plays an important role in how learners are taught, and there is a strong body of evidence that shows that putting a high-quality curriculum in the hands of tertiary lecturers can have significant positive impacts on student achievement. The current teacher education curriculum was last reviewed in 2007. Since then there have been numerous developments both on the national and international level. These include the inauguration of the Constitution of Kenya, 2010, the Kenya Vision 2030, the East African Protocol and most recently the Sustainable Development Goals. All these have implications on teacher education and TVET and necessitate a more comprehensive alteration of the education sector. Thus, an urgent need for tertiary level education reform.

The Kenya Vision 2030 and Sessional Paper No. 2 of 2015, “Transforming education and training in Kenya”, have put much emphasis on Science Technology and Innovation which can be achieved in tertiary education. However, in the current tertiary education innovative, vocational and technical skills which are considered to be important for meeting the demand for skilled labour and the country’s goal of industrialization are not well integrated in the tertiary curriculum.

The shift to a competence based tertiary curriculum will provide the opportunity to set standards against which tertiary student learning can be assessed taking into consideration the individual learner’s interests, abilities and talents. This needs assessment provides the basis on which the Ministry of Education Science and Technology and policy makers will make critical decisions to set the various learning areas in teacher education and TVET. This will drive the tertiary reforms that should lead the country to achieving the tenets of the Constitution of Kenya and the Kenya Vision 2030.

1.4 Research Objectives

The specific objectives of the study were to:

1. Establish desired general needs for tertiary level curriculum reform.
2. Determine desired competencies for tertiary level of learning.
3. Determine the talent identification and nurturing strategies to be adopted at tertiary level.
4. Identify resources suitable for tertiary level competency based curriculum.
5. Determine desired pedagogical approaches for tertiary competency based curriculum.
6. Establish formative and summative assessment modes for tertiary level competency based curriculum

1.5 Scope of the Study

This study covers tertiary level of education for which KICD is mandated to develop curriculum. This covered teacher education and technical and vocational education and training. The study limited itself to the principals ,lecturers , parents and trainees in teacher training colleges and TVET institutions .The study focused only on the desired general needs, competencies, content/learning areas, resources, pedagogical approaches, talent nurturing, crosscutting issue and assessment modes for curriculum reform for tertiary level.

1.6 Rationale for the Study Based on the Context

The hallmark of relevance of any curriculum to society is the promptness with which the curriculum adapts to changing societal needs. The current diploma teacher education curriculum was reviewed in 2007. It is, therefore, not in tandem with the current needs and aspirations of the nation as articulated in various policy documents. The reform in TVET is necessary in order to conform to labour demands of the industrial, commercial and public sectors and at the same time be in line with the technological changes taking place across the globe. The Ministry

of Education Science and technology acknowledges the need to reform the tertiary curriculum with the emphasis shifting from knowledge reproduction to knowledge production and, to make ICT central to it. The proposed curriculum reform has to be in tandem with the Constitution of Kenya, Kenya Vision 2030 and the East Africa Community Protocol, which aim at development of science, technology, innovation and skills among the learners. KICD needed to undertake this needs assessment study in order to ascertain the actual tertiary needs in order to inform policy decision-making on the various aspects of the reform and reform the tertiary curriculum.

CHAPTER TWO

2.0 REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter presents reviews of discussions of literature on curriculum issues that relate to the core aspects of the study. First, a brief on relevant theories in curriculum have been presented followed by a situational review of the study within the field of education and discipline of curriculum studies.

The core aspects of the study have been divided into themes or objectives that have guided the needs assessment survey. These include the general societal needs, competencies, values and attitudes, learning areas, nurturing of talents, resources, assessment and contemporary and emerging issues. Among the articles reviewed include journals, policy documents, books, grey areas such as circulars and other empirical studies.

2.2 Definition of Key Concepts

2.2.0 General Overview

This section describes different understanding by scholars and other authors on meaning of key concepts that have been used in this study. These are not conclusive but it is an attempt to give meaning to the concept used repeatedly in the study. They are not in any order of priority but they represent the themes in the study.

2.2.1 Curriculum

Curriculum may be described as a social construct (Brady and Kennedy, 1999) that is grounded in the culture of the people. It is also considered extremely important that the content of a curriculum should support holistic student

development and should transmit the local culture (UNESCO, 2000; Brady and Kennedy, 1999). It should also fulfill societal needs (Bogotá et al., 1973).

A curriculum must be broadened beyond traditional knowledge-based education to facilitate the development of students' ability to think and act creatively and morally (UNESCO, 2000; Downs Perry, 1994) and to successfully practice competencies (such as problem-solving, decision-making and negotiating) considered necessary for life in the 21st century (Dimmock & Walker, 1998; Tien, Ven and Chou, 2003). Furthermore, for a curriculum to do its work successfully, it must be accessible to all students (Brown, 2003) and should support economic and social development. In a broader sense, curriculum can be viewed as a roadmap for achieving socially agreed development and education goals that embeds society's vision, knowledge, skills and values needed to live in and change the society. As a field of study and a discipline, curriculum has been expounded by Otunga, Otero and Barasa (*Eds*, 2011) as a dynamic field that continually develops through a process, in a given design and within a given social and Physical context.

All curriculum decisions are defined in a framework that establishes the subjects, the time frame and particular content, teaching learning strategies to be adopted and assessment criteria to be used. Countries around the world organize education along curriculum framework. This defines the perimeters within which the curriculum must be developed. It has many components; among them are the underpinning principles and core values, general objectives, expected learning achievements, guidelines on Teaching and learning process and assessment (UNESCO, 2013). Further the paper opines that it is the framework that provides coherence to the guidelines and national standards that enable and support the development of the school curriculum.

2.2.2 Learning Areas

Learning areas refer to content to be taught and learnt. The school curriculum defines learning areas as content to be taught and learned, by whom, when and where (UNESCO, 2015). The organization and sequencing of curriculum facilitates learning. Within the learning areas, content, teaching and learning experiences, assessment and resources are determined by the goals of education from which general and level objectives are derived.

2.2.3. Competencies

Competency is a set of defined behaviors that provide a structured guide enabling the identification, evaluation and development of the behaviors in an individual. Some scholars consider 'Competence' to mean a combination of theoretical and practical knowledge, cognitive skills, values and behavior used to improve performance; or a description of skills, knowledge, attitudes and behaviors required for effective performance of a real-world task or activity (Weddel, 2006). Others define it as the ability to choose and use cohesive or integrated combination of knowledge, skills and attitudes with the aim to realize a task in a certain context (Kouwenhoven, 2003).

Further, competencies are outcomes that learners should have acquired by the end of their general education in order to succeed in academics, in self-development+, in acquiring employment and success in jobs, and inclusion in a knowledge society. Job competencies are not the same as job task. Competencies include all the related knowledge, skills, abilities, and attributes that form a person's job. This set of context-specific qualities is correlated with superior job performance and can be used as a standard against which to measure job performance as well as to develop, recruit, and hire employees.

In essence therefore, Competency-based curriculum is a system of curriculum

derived from an analysis of a potential or actual role in modern society and that tries to certify student progress on the basis of validated or demonstrated performance in some or all aspects of that role (Edwards et.al, 2009). In other words, competencies encourage a mastery of the relevant content knowledge and of the associated skills; both cognitive and practical and includes also internalization by the learner of the associated values (UNESCO, 2015). Competency is related to capacity, that is, a person's ability to evaluate information received and makes choices based on the same. It is a word used to denote a person's ability to acquire, retain and evaluate information (Drew, Hardman & Hosp, 2008).

2.2.4 Values and Attitudes

The Needs Assessment survey not only defined competencies as abilities but also as values and attitudes to be acquired by the time learners leave an education cycle. Values are the principles and fundamental convictions which act as general guides to behavior, the standards by which particular actions are judged as good or desirable (Halstead, 2000). Other views indicate that values are the ideals that give significance to our lives, reflected through the priorities that we choose and that we act on consistently and repeatedly (Brian, 2004). With the emphasis on technology, innovation and science as a means of attaining the Vision 2030 goals, there is a tendency to pay less attention to moral and ethical issues which need to be given equal measure of attention in development.

Value education include explicit and implicit school-based activity which promotes student understanding and knowledge of values, and which develops the skills and dispositions of students so they can enact particular values as individuals and as members of the wider community. The things, ideas beliefs and

principles that are of worth to a person shape his or her values. People's values help to define who they are and help determine the choices they make.

Living values provide principles and tools for development of the whole person recognizing that the individual is comprised of the physical, intellectual, social emotional and spiritual dimension. Education is best enhanced by positive values and attitudes. Therefore it is important for the education system and the curriculum in particular to foster values and the teachers to understand and apply values even as they emphasize on a competency based education.

2.2.4 Pedagogy

Instructional strategies and techniques of carrying out instruction in the delivery of curriculum content are referred to as pedagogy. Pedagogy deals with the practice of teaching and learning. This is where the teachers bring in the 'how' of teaching using instructional designs to convey content to learners in order to achieve learning outcomes stated in the objectives.

For effective curriculum implementation, the teachers must have the capacity to interpret the curriculum through instructional strategies and techniques. These determine how much is learned by the learners. Often, teachers rely on the traditional approaches of teacher centered learning in their effort to cover the syllabi. However with the introduction of the 21st Century skills and the competence based curriculum, the instructional methods must change to more learner centered approaches. Osakwe (2009, in APHRC, 2010) explains the learners centered approaches where the teacher seeks to bring about the change in behavior of learners by imparting knowledge and skills in an interactive way. This is where the learner constructs meaning from the experiences received in their own perception.

2.2.5 Resources

These refer to any inputs that are used in the learning environment to effectively achieve the desired outcomes. These could be human, infrastructure, realia or financial resources. They are also referred to as teaching and learning curriculum support materials. Resources in education include both book and non-book materials and any other learning environment that provides any other learning environment that provides a learning experience to a learner (KIE, 2010).

Resources in education play a very important role in facilitating learning (McAliney, 2009). For effective curriculum implementation, quality physical and human resources are required. Indeed, it is difficult to envisage learning without resources. Educational resources are critically important for ensuring wide access to quality education (UNESCO, 2002) and are therefore selected and used to stimulate interest and motivate learning.

2.2.6 Assessment

This refers to measuring leaning outcomes. In education context it is the process of ascertaining whether students have attained curricula goals. Otunga, et. al (2011: 121) refers to assessment as evaluation, and goes on to define it as *'all systematic actions that focus on determining whether the curriculum...is performing as designed...and establishing effects of the curriculum on its users'*.

Assessing learning outcomes has become of great concern among stakeholders in Kenya. The main concern being the lack of a holistic approach to learning since focus is greatly on performance in a few learning areas. It fails to capture the whole learning that has taken Place .Saltery (1989) defines education assessment as a term which includes all the processes and products that describe the nature and extent of children learning, its degree of correspondence with aims and objectives of teaching and its relationship with the environments which are

designed to facilitate learning. Assessment is an important component in the teaching and learning process, since it is the basis of evaluating of the effectiveness of the implementation process of a curriculum. Teachers and learners use various modes of assessment to determine performance as well as identify gaps. The results and feedback from assessment enables teachers, learners, institutions and governments to make decisions on curriculum.

2.2.7 Crosscutting Issues

The cross-curricular issues are commonly areas which by their very nature have a strong impact on psychosocial behavior of learners. These are issues that touch on a number of different aspects of the society and affect learners at all levels. These issues otherwise known as pertinent and emerging issues, encompasses core-social and human values which manifest themselves in more than one discipline: hence the term cross cutting. Issues that are considered pertinent and hence mainstreamed as study areas in the curriculum include Life Skills Education (LSE), HIV and AIDs Education, Gender Education, Drugs and substance Abuse (DSA) prevention, Child's Right Education, Child labour prevention, Integrity & Good Governance, Guidance and Counseling Service, Environmental Education and Health Education. Other issues that have been perceived to be pertinent in the recent past are; Peace Education, Values/Moral Education, Disaster Risk Reduction, Education for Sustainable Development (ESD) and National Values as enshrined in the Constitution, to mention but a few.

2.2.8 Talents

There is no one universal definition of talented learners. In the United States of America, The No Child Left Behind Act (Elementary and Secondary Education Act, 2002) define Gifted and Talented as children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services and

activities not ordinarily provided by the school in order to fully develop those capabilities. In Australia Gifted and Talented learners at School are defined as those who demonstrate the potential for a high level of performance in different ability areas, when compared to others of similar age, background and experience such as Intellectual, Creative; Artistic; Social; Physical; Spiritual (Department for Education and Children's Services, 1994).

In Korea, a gifted person is defined as one who possesses extraordinary innate abilities or visible talents requiring special education to nurture them. The purpose of gifted education is to promote self-actualization of individuals and have them contribute to development of society and nation by scouting for gifted and talented persons and carrying out education suitable for ability and aptitude in accordance with regulations so they can develop innate potential.

In Kenya, Koech (1999), Kochung', (2003) and Kang'ethe, (2004) defined gifted and talented children as those who at any educational level are identified as possessing demonstrated or potential abilities that give evidence of high performance capabilities in areas such as general intellectual ability, specific academic aptitude, creative and productive thinking, leadership ability, visual and performing arts and psychomotor abilities. According to Kinyua (2014) gifted and talented children as those with outstanding talents, who perform or show the potential of performing at remarkably high levels of accomplishment when compared with others of their age, experience or environment.

2.2.9 Competency Based Curriculum

Competency based curriculum is curriculum that is designed to focus on specific skills outcomes. The concept is that trainees must demonstrate knowledge, skills, capacities and behaviors required for the successful completion of particular tasks or activities.

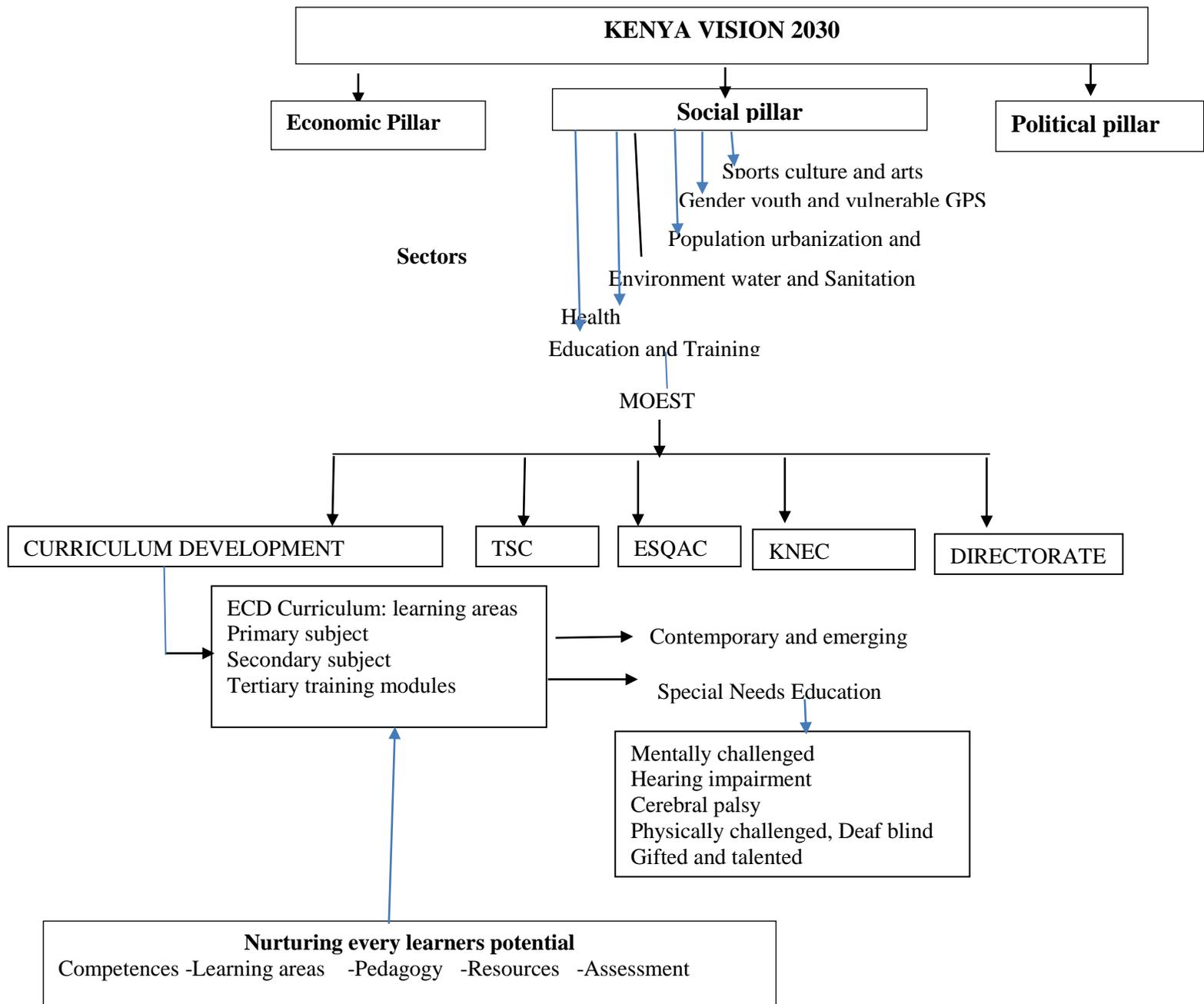
2.3 Situating the Study within the Field of Education and Curriculum Discipline

The aspect of curriculum development can be traced to the national aspirations as envisaged in the Vision 2030. The goal of curriculum reforms is to achieve the vision of ‘Nurturing Every Learners Potential’. This seeks to elicit competencies and values, learning areas, pedagogy, resources, assessment and development of talents as will be guided by the Curriculum Framework for Basic Education.

For every level of education, contemporary and emerging issues as well as special needs education permeate through as they essentially affect all learners irrespective of their learning level. At every level therefore curriculum is developed where learning areas indeed takes cognizance of the contemporary issues as well as learners with special needs.

Curriculum development is nested under the larger umbrella of the MOEST with the other arms of the Ministry, such as the TSC, education Directorates, ESQAC and KNEC. All these work together to fulfill aspirations of the Social Pillar of the Vision 2030 alongside other sectors. This is illustrated in Figure 2.1.

Figure 2.1: Kenya Vision 2030



2.4 Review of Relevant Theories

2.4.0 General Overview

Curriculum theory is an academic discipline devoted to examining and shaping educational curricula. Within the broad field of curriculum studies, it includes both the historical analysis of curriculum and ways of viewing current educational curriculum and policy decisions. There are many different views of curriculum theory (Kliebard, 2004). Kliebard discusses four curriculum groups that he refers to as humanist (or mental disciplinarians), social efficiency, developmentalist (or child study), and social meliorates.

2.4.1 Curriculum Theory

2.4.1.1 Humanists

A common criticism of broad field curriculum is that it lays more emphasis on mental discipline and education. "Mental disciplinarians" and Humanists believe in all students' abilities to develop mental reasoning and that education was not intended for social reform in itself but for the systematic development of reasoning power. Good reasoning power would lead to the betterment of society. Harris described the subjects to be taught as the "five windows" into the soul of the student: "grammar, literature and art, mathematics, geography, and history" and prescribed it in that order to be taught (Kliebard, 2004, p. 15). Some critics view this group as having too much emphasis on the "classics" as determined by the dominant groups in a society.

2.4.1.2 Social Meliorism

This school of thought believes that education is a tool to reform society and create change of the better. The socialization goal was based on the power of the individual's intelligence, and the ability to improve on intelligence through education. An individual's future was not predetermined by gender, race, socio-economic status, heredity or any other factors. "The corruption and vice in the cities, the inequalities of race and gender, and the abuse of privilege and power could all be addressed by a curriculum that focused directly on those very issues, thereby raising a new generation equipped to deal effectively with those abuses" (Kliebard, 2004, p. 24). Some critics contend that this group has goals that are difficult to measure and a product that has slow results.

2.4.1.3 John Dewey's Curriculum Theory

Dewey felt that the curriculum should ultimately produce students who would be able to deal effectively with the modern world. Therefore, curriculum should not be presented as finished abstractions, but should include the child's preconceptions and should incorporate how the child views his or her own world. Dewey uses four instincts, or impulses, to describe how to characterize children's behavior. The four instincts according to Dewey are social, constructive, expressive, and artistic. Curriculum should build an orderly sense of the world where the child lives. Dewey hoped to use occupations to connect miniature versions of fundamental activities of life classroom activities. The way Dewey hoped to accomplish this goal was to combine subject areas and materials. By doing this, Dewey made connections between subjects and the child's life. Dewey is credited for the development of the progressive schools some of which are still in existence today.

2.4 1.4 Social Efficiency

Theorists such as Ross, Bobbitt, Gilbreth, Taylor, and Thorndike are Social efficiency proponents who sought to design a curriculum that would optimize the "social utility" of each individual in a society. By using education as an efficiency tool, these theorists believed that society could be controlled. Students would be scientifically evaluated and educated towards their predicted role in society. This involved the introduction of vocational and junior high schools to address the curriculum designed around specific life activities that correlate with each student's societal future. The socially efficient curriculum would consist of minute parts or tasks that together form a bigger concept. This educational view was somewhat derived with the efficiency of factories which could simultaneously produce able factory workers. Critics believe this model has too much emphasis on testing and separating students based on the results of that testing.

2.4.1.5 Developmentalism

Developmentalist focus on the development of children's emotional and behavioral qualities. One part of this view is using the characteristics of children and youth as the source of the curriculum. Some critics claim this model is at the expense of other relevant factors.

2.4.2 Curriculum Reform Theories

Since curriculum reform engages with redesigning the learning context, one of the curriculum reform theories is Instructional Design theory.

2.4.2.1 Importance of Instructional Design Theory in Curriculum

As Pogrow (1996) states, the history of educational reform is one of consistent failure of major reforms to survive and become institutionalized. Pogrow further asserts that the single biggest tool in promoting curriculum reform has been advocacy. To help educators to improve education, it is imperative that there be public or stakeholder participation. This should also be done in other areas of education policy, as well as systemic change in the educational system (Bathany, 1991; Reigeluth&Cartinkle, 1994). Systemic change emphasizes the need to give organizations considerable autonomy to manage themselves with the purview of corporate vision, rather than being directed from above (Ducker, 1989; Hammer & Champy, 1993). This allows corporations to respond much more quickly and appropriately to their customers and clients' needs. The Institute aspires to engage stakeholders as well as parent participation in its advocacy for a competent based curriculum.

Globally, fundamental changes in the education systems have important implications for curriculum reform. Learners need to be able to think about and solve problems, work in teams, communicate through discussions, take initiatives and bring diverse perspectives to their learning. In addition, students/pupils need to learn more, yet they have little time available to learn it (Lee & Zemke, 1995). Learners also need to demonstrate an impact of the achievement of national goals of education. This is best explained by the theory expounded by John Hattie-Visible Learning theory (2012).

Visible Learning means an enhanced role for teachers as they become evaluators of their own teaching. It refers to making student learning visible to teachers so that they can know whether they are having an impact on this learning that is an important component of becoming lifelong learners – something basic education wants students to value. The 'learning' part of visible learning is the need to think of teaching with learning in the forefront and with the idea that we should consider teaching primarily in terms of its impact on student learning.

When the teaching is visible the student knows what to do and how to do it. When the learning is visible the teacher knows if learning is occurring or not. Teaching and learning are visible when the learning goal is not only challenging but is explicit. Furthermore, both the teacher and the student work together to attain the goal, provide feedback, and ascertain whether the student has attained the goal. Evidence shows that the greatest effects on student learning come when not only the students become their own teachers (through self-monitoring, and self-assessment), but the teachers become learners of their own teaching. In successful classrooms, both the teaching and learning are visible. This way of learning is essential for criterion referenced assessment which seeks to make assessment part of learning, and is an essential component of the competence based curriculum.

2.5 Review of Relevant Policy Documents

2.5.0. General Overview

Education is the key to well-being and prosperity as it is impossible to attain high levels of economic development and high standard of living without a highly educated workforce. This is why education is well structured and guided by various national and international policy guidelines. Policy documents reviewed include the Kenya Vision 2030, the Kenya Constitution, Sessional paper No. 2 of 2015, the Basic Education Act (2013), National Education Sector Plan (2015), Kenya Institute of Curriculum Development policy documents, Education for All goals as well as the Sustainable Development Goals, among others. Review of policy documents is necessitated by the fact that it is a national priority to align the curriculum to address the aspirations of these policies as well as the East African Community protocol. The government is fully committed to achieving its national and international policies in education.

2.5.1 Societal Needs

Every society has certain needs that must be fulfilled in order to succeed. Society influences curriculum development because curriculum needs to be relevant to the needs of the society. Consequently, as the needs of the society changes, curriculum also needs to change in order to reflect those changes and make it relevant (Treadaway, 2003).The societal needs are clearly spelt out in the National Goals of Education. These goals of education are embedded in the Vision

2030 (Republic of Kenya, 2012) and include: Promote national unity and patriotism; Enhance social, economic, technological & industrial needs for national development; Promote individual development and self-fulfillment; Inculcate sound moral and religious values; Promote social equality and responsibility; Respect for Kenya's rich & varied cultures; Implant international consciousness & positive attitudes towards other nations and; Embrace positive attitudes towards good health and environmental protection (KIE, 2008).

During the National Conference on Education (2003), it was noted that there was need for the government to achieve Universal Primary Education (UPE) goal by 2015, with the overall goal of attaining Education for All (EFA) by 2015. The attainment of UPE would ensure that all Kenyan children eligible for primary schooling had opportunity to enroll and remain in school to learn and acquire quality education. However, various challenges with respect to access, equity, quality and relevance, continued to constrain the provision of quality education and services. One of the recommendations made was that the MOEST, through KIE, should rationalize the curriculum for primary education to incorporate health and nutrition learning and to place increased emphasis on Physical Education and sports.

Over time, Policy documents have articulated the direction the country needs to take in order to propel its development agenda. According to the recommendations made in the Sessional paper No. 1 of 2005 on Policy Framework for Education, Training and Research, a breakthrough towards industrialization can only be achieved through application of technology. It was necessary to give prominence to technical education in all sub-sectors. The introduction of many practical and vocational subjects was meant to prepare students for the world of work

The Kenya Vision 2030 places great emphasis on the link between education and the labour market, the need to create entrepreneurial skills and competences, and the need to strengthen partnerships with the private sector. The curriculum is supposed to develop these skills and competencies. However, The Task Force on the Re-Alignment of the Education Sector to the Constitution (2012) noted that the quality of education is not clearly spelt out so that the curriculum delivery can focus on development of specific expected competences to be assessed. The task force recommended structuring of the curriculum within a skills and competences

framework that identifies the knowledge, skills and competences all learners will acquire, and which will provide both vertical and horizontal coherence.

The NESP (2015) makes it very clear that the curriculum is expected to empower the citizens with necessary knowledge and competencies to realize the national developmental goals. Further societal aspirations can only be realized through the implementation of a well-designed dynamic and responsive or relevant curriculum (Republic of Kenya, 2015). Curriculum is developed based on the identified societal needs and the dynamism of the industry and the job market. Consequently the curriculum reform has been preceded by needs assessment because the stakeholders ideally should participate in this process.

Education should prepare workers for the 21st century by teaching skills necessary for industry and commerce. Kenya Vision 2030 aims at making Kenya a newly industrialized, middle income country providing high quality life for all its citizens by the year 2030. The Vision is based on three pillars namely; the economic pillar, the social pillar and the political pillar. The Vision 2030 places great emphasis on the link between education and the labour market, the need to create entrepreneurial skills and competences, and strong public and private sector partnerships. It articulates the development of a middle-income country in which all citizens will: have embraced entrepreneurship, be able to engage in lifelong learning, perform more non-routine tasks, be capable of more complex problem-solving, be able to take more decisions, understand more about what they are working on, require less supervision, assume more responsibility, and as vital tools towards these ends, have better reading, quantitative reasoning and expository skills. This has considerable importance for the kind of education and training system required to deliver the requisite skills, competencies and attitudes. As such there will be need to address issues related to quality, service delivery, curriculum, relevance, teacher development and management at all levels as well as trainers in the areas of technology and entrepreneurial skill development.

The Task Force on Re-alignment of the Education Sector (2012) was mandated to review and align the education, training and research sector in accordance with the Constitution. Among the issues raised in relation to the societal issues in the curriculum were that; there was too much focus on academics and university education, thus looking down upon any other post-secondary

education. This had impacted negatively on middle level training which in essence produced the bulk of the human resource required to drive the country towards Vision 2030. The implication was that the primary, secondary and teacher education curricula did not address the dictates of Vision 2030, the Constitution and regional integration.

The content of the curriculum has increasingly been considered dated with regard to the skills and values needed to operate in the current world full of both uncertainties and opportunities. Furthermore, a relevant curriculum is required to instill positive values, mould character, moral and spiritual formation of the learners. Aligning the curriculum to address the aspirations of Vision 2030, the Constitution and the East African Community treaty is a priority of the National government (Republic of Kenya, 2012). The content for Basic Education would therefore need to be designed with the view of equipping the learners with relevant knowledge that emphasizes on technology, innovation and entrepreneurship (GOK, 2007). In addition, the learners would have an opportunity to develop their full capacities in order to live and work in dignity, enhance the quality of their lives, make informed decisions and continue with learning as a lifelong engagement.

2.5.2 Competencies

Over the years, the Kenyan curriculum has been objective based with limited flexibility in terms of content packaging and autonomy for the teacher and learners. Apart from Kenya, the other East African Community (EAC) member countries have adopted competence based curriculum and assessment. The Basic education Act (2013) stipulates policy and guidelines on curricula and points out that among other activities undertaken by KICD on curricula developed, is to secure the competencies and learning outcomes for the relevant structures and levels under the National Qualifications Framework. Additionally, the Sessional paper No.2 of 2015 has clarified the strategy on the policy on curriculum and assessment by stating that KICD is expected to develop a repertoire of skills and competencies necessary to inform a globally competitive economy. The curriculum policy (2015) points need to have the curriculum spelling out expected competencies at every level. Further, the curriculum should be designed to equip learners with relevant knowledge skills, competencies and values to enable them develop their full potential. This echoes what is also contained in NESP of 2015 which affirms that curriculum developed will be

competence based. This will ensure that at each level, desired outcomes are achieved and learners can progress with diverse interests and abilities.

Although these competencies should be addressed in the curriculum, they have implications on the policy makers and the implementers. The school managers need necessary skills and competences to monitor standards and quality of curriculum delivery as well as quality of teaching in their schools. Further teacher trainers at all levels of teacher training education need the necessary skills and competences to impart on their teacher trainees. Additionally, Quality Assurance and Standards officers should have the required skills and competences to add value to the standards and quality of education in the learning institutions.

The Task force (2012) recommended some core competencies that should be acquired by learners and include: Communication skills, manipulation skills, social skills, environmental awareness, numeracy, ethical skills, and investigative skills among others.

2.5.3 Values and Attitudes

Article 10 of the Constitution (GoK, 2010) contains the national values and principles of governance to be upheld by all Kenyans. Education and Training provides the best medium of inculcating these values. The values include Patriotism, national unity, sharing and devolution of power, the rule of law, democracy and participation of the people; Human dignity, equity, social justice, inclusiveness, equality, human rights, nondiscrimination and protection of the marginalized; Good governance, integrity, transparency and accountability; and Sustainable development. In addition, article 11 of the Constitution recognizes culture as the foundation of the nation and as the cumulative civilization of the Kenyan people and nation. Education and training therefore is expected to: Promote all forms of national and cultural expressions through literature, the arts, traditional celebrations, science, communication, information, mass media, publications, libraries and other cultural heritage; Recognize the role of science and indigenous technologies in the development of the nation; and Promote the intellectual property rights of the people of Kenya. The aspirations of the Constitution therefore should be embedded in the curriculum and taught to all learners across the levels.

In addition, the Vision 2030 adds that the journey towards widespread prosperity involves building a just and cohesive society that enjoys equitable development in a clean and secure environment. Some of the related major issues that need to be addressed within education have to do with living together in a cohesive society, having healthy individuals and education that supports personal growth and development.

2.5.4 Learning Areas

The Sessional paper no. 2 of 2015 expounds on the need to teach foreign language in our system of education for global competitiveness and education for sustainable development. Among other things that the curriculum should develop are the 21st Century skills, and learners who maintain, improve and sustain the environment. When the Constitution of Kenya was promulgated, the onus was on KICD to ensure that the curriculum was in line with the spirit of the Constitution even before the curriculum reforms. This necessitated amendment of some parts of the curriculum where deliberate effort was made to respond to the needs of the Constitution, while making the subjects relevant and meaningful. The reforms therefore will further address appropriate areas in the Constitution. Other areas to be developed should enable learners to acquire relevant skills, knowledge and attitudes.

The Sessional paper No. 2 of 2015 clearly states that the curriculum will provide knowledge skills and values, and competencies to enable learners to move seamlessly from the education system to either further education or to technical/vocational areas. The curriculum is also expected to apportion a certain percentage of the content to meet regional needs (Republic of Kenya, 2015). Vision 2030 lays importance on certain learning areas. Agriculture is seen as a major contributor to the country's GDP. It further echoes the importance of mainstreaming Science, Technology and Innovation in the school curriculum (Gok, 2007).

2.5.5 Assessment

For learning process to be complete, assessment must take place, whether it is school based or at the end of the cycle. Those that are school based are diagnostic and for placement, while the national end of cycle exams are for transition to the next level. Assessment can either be formative or summative. The summative assessment is usually carried out by KNEC, while other

National assessments assess the attainment levels of certain competencies. Summative assessments are based on utilization of a single metric to assess basic knowledge and skills levels acquired by students. Used this way, it is an instrument of accountability. This mode of assessment is preferred since teachers are able to check in a linear manner the level of assimilation of information, facts and concepts passed to learners. On the other hand, formative approach supports the learning process. The teacher is able to understand how students are leaning, to identify problems the students may face in the learning process and to use feedback to ensure that all have the opportunity to learn (UNESCO; IBE, 2015)

Among the shortcoming of the assessment mode in Kenya as outlined by the Taskforce report (2012) and the Sessional Paper No.2 of 2015 is too much emphasis on examination based certification at the end of each cycle, lack of open opportunities for learner to pursue further education and lack of harmony with the educational structures of East African countries. In addition, teachers are not adequately trained in test development and evaluation procedures.

Due to the importance attached to the examinations and too much competition, assessment is no longer seen as part and parcel of the teaching learning process but as a gateway to determine who can proceed to the next level of education. The policies recommend that in the reformed curriculum, competencies and skills will be assessed and that the introduction of standardized assessment testing across the basic education cycle will address this need (Republic of Kenya, 2015). Further forms of assessment have been proposed for every level in the Taskforce Report (2012). They include observations, pupil profiling in core learning areas and social development as well as standardized assessment. Quality assessment therefore, will ensure competencies in the curriculum are attained. This is because assessments measure learner competencies and evaluates the learning that has taken place.

2.5.6 Resources

According to the Taskforce Report (2012) most schools lacked basic requirement such as teaching and learning materials, tuition equipment and physical facilities. Teachers especially for the practical and vocational subjects were also inadequate. As textbooks play a crucial role in the education process, the government allocates 60% of the tuition vote on textbooks annually since 2003 when this began.

2.5.7 Crosscutting Issues

The various contemporary and emerging issues have been identified from different policy documents such as the Constitution, Vision 2030, and Education for Sustainable development (ESD), Child Act (2001), Millennium Development Goals (MDG), Sustainable Development Goals (SDG), and NESP (2015) among others. Each of these policy documents emphasizes different aspects of the cross cutting issues and education has been identified as the wheel to nurture them among learners across all levels. These policies documents articulate that learners across all levels irrespective of their age are faced with contemporary lifestyles and challenges that necessitate decision making competencies. In particular, the Sessional paper no 2 of 2015, emphasizes that learners have issues ranging from sexuality, drug and substance abuse, media influence in these times of technological advancement, and political and social scenarios that influence their lives (Republic of Kenya,2015). Although the curriculum has Life skills Education Curriculum as well as curriculum support materials, cross cutting issues remain a critical aspect of education, more so because emerging issues are not taught in most schools (KICD, 2014).

The Education Sector Policy on HIV and AIDs (MOEST, 2013) and the Policy on Gender (MoE, 2007) state that these contemporary issues should be mainstreamed into the existing curriculum. Teachers should be given capacity to do this so that they in turn can help learners to benefit from and cope with many contemporary and future challenges. The Sessional Paper No.1 of 2005 has paid attention to effective teacher development and utilization, while Vision 2030 lays emphasis on quality education and training. These can only be actualized through effective capacity building of teachers.

The Constitution gives more details on contemporary and emerging issues and the direction education should take. This is stipulated in several Chapters such as two and six which deal with principles of governance, leadership and integrity; chapter four deals with bills of rights which include child rights; part two deals with environment; part three deals with specific application of rights like children rights and persons with disabilities; chapter five part two deals with environment and natural resources; while chapter twelve deals with national security (GoK 2010). All these are cross curricular issues that need to be in cooperated in the current curriculum

reforms across all levels of education, lest it is rightly declared unconstitutional. Other cross cutting issues like technology, health issue and drug abuse are also emphasized in the Vision 2030.

Although guidance and counseling is not a crosscutting area, education needs to address personal development and mentor, mould and nurture the learners. This is appreciating that some learners across all levels come from difficult social economic contexts. With the emphasis of parental and community engagement in education in the education policies, the curriculum reforms will engage all stakeholders including parents and members of the public.

The MoEST purpose for requiring the Task Force to consider the issue of Mentoring and Molding in the ToRs demonstrates the importance of an individual's right to dignified growth and development, free association and free speech. This is facilitated by the education system, which prepares individuals to participate effectively in society in an informed and acceptable way on the basis of values aimed at national cohesion and unity.

2.5.8. Talents

According to the curriculum policy (2015), the curriculum as it is does not give linkage of talents to development of careers, further education or training. There is need to address the aspects of identifying, nurturing and developing talents among learners. Kenya Vision 2030 calls for curriculum that develops learners' entrepreneurial skills, competencies and talents. Additionally, Sessional paper no. 2 of 2015 expounds on the need to develop and nurture talents for global competitiveness while the Taskforce Report mentions identification and advancement of talents among core curriculum competencies.

2.6 Review of Curriculum in Other Contexts

2.6.1 General Overview

The process of curriculum development is initiated by a needs assessment which basically looks at the situation of 'whatis' and 'whatshouldbe'. This calls for systematic investigation to collect data and establish the need for curriculum reforms. Results of the needs assessment supported by related literature are used to develop appropriate curriculum designs and delineate the expected competencies. (Otunga et al, 2011). This section therefore presents related literature reviewed on

curriculum in other contexts, other than the policy document or other researches done in the curriculum.

2.6.2 Societal Needs

For a curriculum to be relevant, it must meet societal needs. Education is recognized as a key means to ends of greater economic and social equality, eradicating poverty and of national, economic, social and political development (IBE, 2015). This paper further argues that when education in a country lacks relevance and quality, it creates a shortage of human resource with appropriate mix of skills. This constraints holistic and inclusive development, sustainable growth and global competitiveness. It further perpetuates social inequalities and exclusion, leading to “social and political instability”, hence is a threat to peace and security of any society (ibid).

The curriculum is critically important in any society as it engages in a collective way the knowledge, skills and values that need to be learned by all. If sustainable ways of living e.g. one important aspect the curriculum should reflect that while the curriculum conceptualizes the Sustainable Development Goals (SDGs) ensuring inclusiveness and providing equity n quality education is curriculum has an essential role of providing quality learning for all learners and support education that is relevant to holistic development. In so doing, the curriculum seeks to meet provisions of the fourth SDGs.

Lovat and Smith (1995) argue that there is always an underlying social and politico-economic philosophy which impacts upon education and the curriculum. Brady and Kennedy, (1999) extend this argument by maintaining that curriculum is not an entity apart from society, it is firmly embedded in it and thus is a social construct. But it is also a personal construct, as curriculum represents a selection of societal ideas, skills, values and practices. Thus, the curriculum is constructed by people, for people and as such should be relevant and all-encompassing so as to address all the needs of the society. National development is multifaceted and goes beyond economic and material progress knowledge technology; equity and social justice are elements of national development.

The rapid development and proliferation of ICT and of related digital technologies are driven towards a knowledge economy; it demands often higher levels of education in workers across all sectors. Since personal development is one of the education goals, there should be links between

education and the individual. Access to education is pivotal to life's chances and self-fulfillment (Musuota, 1994). Additionally, Brown (2003) argues that to enable a society to progress, education must be widely available to individuals. Education is much more than a mechanical process, as it deals with human lives, destinations, hopes and dreams (Disla, 2002). Thus careful thought needs to go into the selection of curriculum content. The needs of the society must be taken into consideration. The societal needs include the preservation of culture, industrial and economic needs, Creativity needs, as well as moral and ethical needs. Some of the countries that Kenya has benchmarked with in education are South Korea and Malaysia. In these countries, teaching of moral education is taken seriously among the core subjects right from pre-school through all the levels of education. These countries also emphasize on the promotion of nationalism and patriotism through teaching of history of the country in South Korea and Local studies in Malaysia (KIE, Bench Marking Report, 2010).

The Kenya Education Commission of 1964 (The Ominde Commission) was formed to introduce changes that would reflect the nation's sovereignty. The commission focused on patriotism, identity and unity, which were critical issues at the time. The committee also laid emphasis on an education that would foster social equality, preserve Kenya's cultural heritage and reduce poverty. Consequently, the content of History and Geography subjects were changed to reflect national cohesion. One of the recommendations was that Kenya adopts a unified national curriculum approach. This committee also laid emphasis on an education that was to promote unity and patriotism. Although the curriculum should be seen as a vital element for improving education, quality and relevance of education to holistic, inclusive and sustainable development goals, it is a key means for improving quality and equity in education this effective learning and ensuring consistent alignment of learning with social aspiration and development goals.

2.6.3 Competencies

Competency based education identifies specific competencies and skills that must be mastered by a pupil and are regularly measured against set standards so as to assess the effectiveness of the teaching (Farrant, 2004). All competencies should be both demonstratable and evaluatable (Ross, 2000). Competency based training emphasizes on outcomes and skills rather than processes of learning and the time taken to reach a prescribed standard of competency (Evan, Haughey & Murphy, 2008). It emphasizes what the learners should know and be able to do.

Rather than education being focused on what the teacher thinks learners should know (teacher-focused) it looks at learning from the point of view of the learner performance (learner-focused) making as clear as possible what should be achieved and standards for measuring that achievement (Republic of Kenya, 2011). It is a shift of the curriculum away from the idea of knowledge to one of skills and abilities where content is less important than standards of achievements. In a competency based curriculum, knowledge is closely linked with understanding rather than being identified in its own right. The shift to competency based approach to curriculum and learning is an integrated and holistic understanding of what it is that we want our young people to learn, be able to do and to become.

Global trends in curriculum designs are moving towards competence based approaches. Different countries have different ways of developing competencies in their curriculum. In South Korea and Malaysia, curriculum designs are a blend of both objectives and competencies based approaches. The designs are both thematic and these themes are packaged in modular forms and cut across all subjects. In the European Union (EU) countries, competencies are a combination of knowledge, skills and attitudes appropriate to the context. For them 'key competences are those which all individuals need for personal fulfillment and development, active citizenship, social inclusion and employment' (European parliament, 2006: in IBE 10). Further it set out 8 key competences for lifelong learning namely: mother tongue, foreign language mathematical sciences and technology, digital competence, learning to learn, social and civic initiative and entrepreneurship, cultural awareness and expression.

According to Scottish Government (2009), all children and young people are entitled to opportunities for developing skills for learning, life and work. Curriculum for Excellence is designed to transform education in Scotland, leading to better outcomes for all children and young people. It does this by providing them with the knowledge, skills and attributes they need to thrive in a modern society and economy laying the foundation for the development of skills throughout an individual's life. Providing individuals with skills helps each individual to fulfill their social and intellectual potential and benefits the wider Scottish economy. The skills should be developed across all curriculum areas, in interdisciplinary studies and in all the contexts and settings where young people are learning. Scotland focuses on a number of overlapping clusters of skills:

- Personal and learning skills that enable individuals to become effective lifelong learners
- Literacy and numeracy
- The five core and essential skills of communication, numeracy, problem solving, information technology and working with others
- Vocational skills that is specific to a particular occupation or sector

The development of skills in Scotland is essential to learning and education to help young people to become successful learners, confident individuals, responsible citizens and effective contributors. These are presented in Figure 2.2.

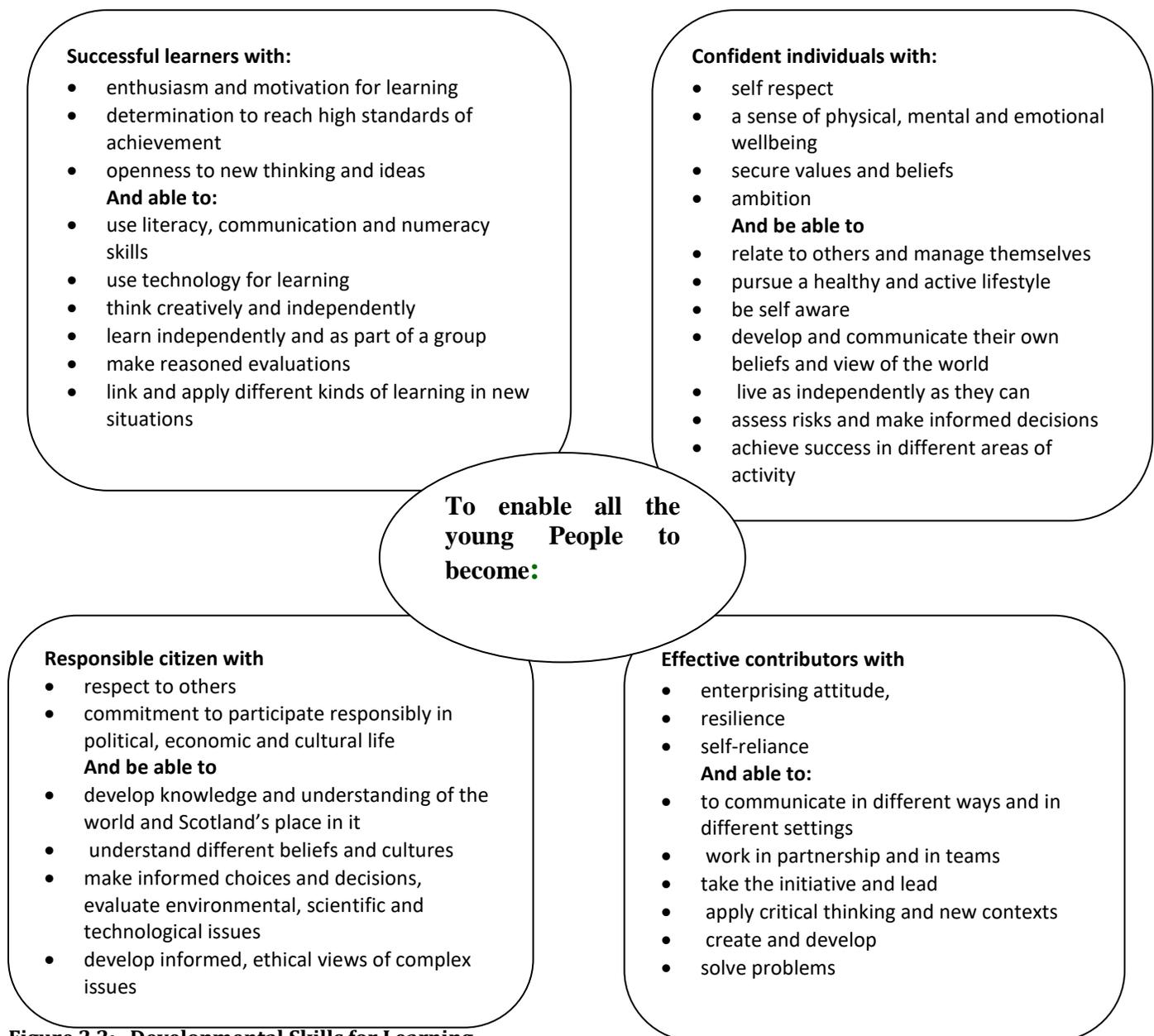


Figure 2.2: Developmental Skills for Learning

Source; Scottish government (2009)

The skills and attributes which learners develop should provide them with a sound basis for their development as lifelong learners in their adult, social and working lives, enabling them to reach their full potential. Every young person is entitled to support to enable them to gain as much as possible from the opportunities to develop their skills which curriculum for Excellence can provide. Timely provision of support to meet individuals' needs will enable young people to effectively engage with opportunities for skills development.

The three countries in the East African region have developed a competence based curriculum. In Rwanda, the process began in 2014 (Republic of Rwanda, 2015). Just like Kenya, Rwanda is building a knowledge based economy driven by science and technology. Its curriculum framework translates the country's education vision into learning experiences and assessment. In view of the East African harmonized Curriculum Framework, it is imperative that Kenya as a partner state adopts the agreement made among the partners in the East African Protocol and revert to a competence based curriculum. Principles guiding the competence base curriculum framework in Rwanda include; learner centered approaches, teaching and learning that emphasizes on competencies rather than knowledge domain, flexible inclusive learning that has emphasis on talents, integration of ICT and interconnectedness with cross cutting Issues such as sexuality, genocide studies, financial literacy, and peace and values education among others (Republic of Rwanda, 2015).

Identifying specific basic competencies such as literacy and numeracy, and generic competencies such as critical thinking, creativity and innovation, among others, depends on specific contexts. When Kenya adopts the competence based curriculum, there will be need to establish both basic and generic competencies depending on the views sought from the stakeholders.

2.6.4 Global Views on Values and Attitudes in Education

The values included in the Australian curriculum include: cooperation, freedom, happiness, honesty, tolerance, unity, peace, respect, responsibility, simplicity, humility and love In Singapore, the concept of a national ideology had an objective of preserving their Asian identity in an era of globalization where they would be exposed to external influences. They outlined the essential tasks in developing the National Ideology, namely: to find common values which all

can share; to preserve the heritage of the different communities; and to ensure that each community also appreciates and is sensitive to the traditions of others. The Singaporean education had a basis for developing values that were mainstreamed into the curriculum. This promoted Singapore identity with key common values that all racial groups and faiths would subscribe to and live by. Outside of these Shared Values, each community would practice its own values as long as they are not in conflict with the recognized values inculcated through the curriculum.

America has also implemented values and character education especially in the state of Georgia. Values are considered to be important to a child's character formation. As students' progress through schools, it is important that their education provide instructional opportunities, which help them develop their beliefs about what is right and good. The State Board of Education believes that there is a core list of values and character education concepts that should be taught in their schools such as these in Table 2.1

Table 2.1: Values

• Accomplishment	• Fairness	• Respect for Authority
• Cheerfulness	• Frugality	• Respect for Others
• Citizenship	• Generosity	• Respect for The Creator
• Cleanliness	• Honesty	• Respect for Environment
• Commitment	• Honor	• Respect for Health
• Compassion	• Kindness	• School Pride
• Cooperation	• Knowledge	• Self-Control
• Courage	• Loyalty	• Self-Respect
• Courtesy	• Moderation	• Sportsmanship
• Creativity	• Patience	• Trustworthiness
• Democracy	• Patriotism	• Truthfulness
• Dependability	• Perseverance	• Tolerance
• Diligence	• Productivity	
• Equality	• Punctuality	

In the Kenyan context, the guiding principles have been developed from the Values Education Study (2003). They recognize that in all contexts schools promote, foster and transmit values to all students and that education is as much about building character as it is about equipping students with specific skills. They also recognize that schools are not value-free or value-neutral zones of social and educational engagement. Although the curriculum in Kenya has addressed values like nationalism, patriotism, integrity and mutual respect, through integration and mainstreaming and education is structured to promote positive attitudes towards good health and environmental protection (KIE, 2006), much more needs to be done to inculcate this in learners and not teach for achievement of a mean score only.

2.6.5 Learning Areas

The curriculum in teacher education in Kenya in the last century has been designed around the philosophy of subject matter content. The main tenets of this subject matter philosophy underlie 19th Century doctrines of classical psychology. According to the doctrines, the mind is compartmentalized into specific faculties which can be trained to accomplish a given task. The end task is passing examinations which are taken after drills and learning through rote memorization. The learning environment is characterized by competition and detailed mastery of facts of the subject matter.

Often in many countries, the curriculum is too overloaded, overcrowded, “congested” and outdated. The International Commission on Education for the Twenty-First Century, proposed to UNESCO an integrated vision of education based on the four pillars of “learning to know, to do, to be, and to live together.” Some advocate for the “4Cs (Critical thinking, communication, collaboration and creativity) or the 7Cs (the 4Cs plus “computer, character and culture”. Some speak of becoming “good capable and world-improving people”. Others would say it is having people becoming “effective thinkers, effective actors, effective relaters and effective accomplisners” (UNESCO, 2012). The aspect of the 21st Century skills is one which the curriculum cannot ignore in the development of its curriculum framework.

UNESCO (2000) regards ‘learning to do’ or to ‘act creatively’ as the second of its four pillars of education needed to support society in the 21st Century. Amadio, Opertti and Tedesco (2014) regarded curriculum in a wide context of having the most important values being acquired at

school and the most fundamental learning experiences required to ensure new generations are prepared for life in the aspired society. Additionally, Brown (2003) opines that edifying young people through fostering imagination and creativity, and a prime tool for doing this may be an arts education that includes Art and Music. Jensen (1998) observed that a strong Arts curriculum is at the creative core of academic excellence and lays the foundations for positive, measurable and lasting academic and social benefits through building creativity, concentration, problem solving abilities and self-discipline. In China, it is now creative students who are labeled as “good students” rather than students who gain high scores through the traditional rote learning. By learning and practicing art, the human brain actually rewires itself to make more and stronger connections (ibid). Music, on the other hand, is a tool that primes the brain’s neural pathways, enhances a wide range of academic and social skills. Creative Arts and other creative practical subjects such as Home Economics and Industrial Arts therefore need to be in the curriculum.

2.6.6 Assessment

There are new trends in assessment the world over as governments endeavor to reform education in order to meet their needs. These trends cover both alternative and authentic assessment. Alternative assessments focus on the active construction of meaning rather than the passive regurgitation of isolated facts. These place more emphasis on thinking skills, collaborative skills and provide opportunities for multiple correct answers. Authentic assessment on the other hand, focuses on knowledge, thinking and skills. It aims at solving problems and accomplishing tasks. These give a teacher a clearer picture of what the learners are able to do with the knowledge acquired over a long period of time. Tests in this area are prepared with the success of the learners in mind as opposed to the success of a few as in the case with norm referenced assessment.

Countries have continually benchmarked with the best in the field of education in order to improve performance. The Japanese Government resolved to reform their education in order to catch up with the west through continued and aggressive research. Singapore has the best education indicators in the world in Mathematics and Science as measured in the Trends in International Mathematics and Science Survey (TIMSS). The Kenya Vision 2030 takes cognizance of the achievements of a number of countries in education as well in the economic indicators and makes mention of the rapid progress over a short time of South Korea, Malaysia,

Finland, Ireland, China and Chile. PISA studies carried out in America and Europe have continued to inform policy on education and consequently testing.

Educational psychologist Benjamin Bloom categorized what and how we learn in three domains namely cognitive, psychomotor and affective. Although the curriculum in Kenya underscores the need for holistic development of the learners as suggested by Bloom's approach, the KIE (2010) indicated that learning in Kenya mainly focuses on the cognitive domain or the aspect knowledge only. Attitudes a central component of competencies are never assessed. The emphasis has been on certification at the expense of learning. This often only fulfils a function of selection and as a regulation of opportunities for those who move ahead in the education system (UNESCO, 2015). It becomes an indicator of the institution one moves to in the next level of learning and the career path that is pursued. Although the MoEST in Kenya lays a lot of emphasis on school based continuous assessment, there is a lot of pressure on curriculum implementers to perform highly in national exams. This results to teachers' focusing on revision and drills for exams thus compromising the learning process.

Unlike Kenya, South Korea and Malaysia puts a lot of emphasis on school based assessments. Although the Malaysian education system has national examinations at the end of every level, the results, unlike Kenya, do not determine transition to the next level (MoEST, 2001).

According to Kellagan and Greaney (2001) regular, reliable and timely assessment is key to improving learning achievement and should therefore be a fundamental component of an effective teaching and learning process. In an established competence based curriculum framework, the purpose of evaluation is spelt out and goes beyond selection and certification. Since there is emphasis on the formative aspect of assessment, the purpose includes monitoring progress and providing feedback. In the case of Rwanda, assessment focuses both on knowledge and understanding, aptitude and practical tests, attitudes and values (behavior) and generic competencies guided by specific indicators (Republic of Rwanda, 2015).

Assessment of competencies is criterion referenced, as compared to assessment of an objective based curriculum. Huitt, (1996) in his article 'Measurement and Evaluation' differentiates between criterion and norm referenced assessment based on purpose, content, item

characteristics and score interpretations. Whereas criterion referenced assessment focuses on determining whether each learner has achieved specific skills or concepts, norm referenced assessment focuses on ranking learners with respect to the achievement of others in broad areas of knowledge.

2.6.7 Pedagogy

For teaching to be effective it has to be systematic and stimulating. Teachers need to acquire skills as they teach in order to make it motivating. Perrot (1984) in Otunga, et al (2011) identifies several factors such as set induction, stimulus variation, explanation, questioning and reinforcement as presentation skills of interaction. Others are use of examples, question and answers and explanations. Instructional approaches also are discussed as simulation, presentation, discussion and problem solving.

2.6.8 Resources

According to Otunga, et al (2011), there are two types of instructional resources; human and non-human resources. The human resource includes the teacher or any other person interacting with the learners, while the non-human is either print or non-print resources. Print resources include course books, reference and supplementary materials as well as class readers, journals, newspapers, workbooks, fiction, periodicals, study guides, magazines among many others. Further Schonwetter (2008, in Otunga, et al, 2011) has given other forms of resources that exist. These include, but not limited to multi-media presentations, teaching websites and repositories, government sites, conference sites, trade sites and teaching and learning objects. Generally it is the teacher who decides on the resource to be used to enhance teaching and learning alongside the teaching method to compliment delivery of content and achievement of objectives. All this will depend on content and purpose of instruction, language level and class size, resource availability and adequacy (ibid).

2.7 Review of Relevant Previous Research

2.7.0 General Overview

Educational changes at the national level at the initiation or implementation stages must plan and consider how people will react to change. There is need to consider how the process will be affected by the existing circumstances. Sekui,(2004, in Wedell, 2009) observed that in Japan, an

educational change that involved new curriculum made teachers worry because of the required new practices in classroom management styles and secondly the implementers may lack confidence on the new styles they are expected to adopt. There is therefore need for comprehensive rationale for the anticipated curriculum reforms. This section presents review of relevant previous curriculum research that relates to the themes of this study.

2.7.1 Societal Needs

Various studies have indicated existence of gaps in the curriculum as pertains to the societal needs. The Bessey Committee of 1972 pointed out that the curriculum did not achieve the national objectives because of the narrowness of scope and over emphasis on rote learning (Republic of Kenya, 1972). The study established that the curricula neglected practical and creative activities especially in agriculture and basic manual skills. The curriculum was also found to be unresponsive to Kenya's cultural heritage and the entire environment in which children as well as young people grew. By 1977 in Kenya, secondary school graduates surpassed the white collar jobs that were available aggravating the problem of unemployment in the country.

The Report of the National Committee on Educational Objectives and Policies (Gachathi report of 1976) guided curriculum improvement during this period. The Gachathi Report (Republic of Kenya, 1976) raised the issue of unemployment in relation to 7-4-2-3 education system. In view of this, the committee proposed that the secondary school education curriculum should be redefined to make it practical with more emphasis placed on the teaching of sciences, agriculture and vocational subjects. The 7-4-2-3 system of education lacked the capacity and flexibility to respond to the changing aspirations of individual Kenyans and the labour market needs. Consequently, there was an urgent need to change the curriculum to focus on the acquisition of relevant and practical knowledge and skills that would lead to quality employment. The rationale was that the existing system was too short and not rigorous enough to give graduates enough practical education to fit in the world of work. The year 2002 saw a national revision and rationalization of the curriculum. The revision entailed refocusing the goals of education, the level objectives, subject general objectives and the specific objectives.

2.7.2 Competencies

Ford (2014) opines that Competence Based Education (CBE) and training is not a new concept. Ford traces development of CBE to the theory of behaviorism whose proponent is the psychologist Skinner, because it reflects instructional designs informed by the field of Psychology, and measuring what learners are able to 'do' and at what level (standards- based performance). The emphasis is outcomes versus process.

Until recently, CBE programmes were a 'niche', for adult learning and vocational education aimed at the job market. Calls for more effective and demonstrable outcomes have attracted interests in development of major competence based initiatives (Ford, 2014). In CBE, students are assisted and not taught. It draws what the competence is, how it will be achieved, the activities and content, and how it will be assessed. Ewell (2013) in Ford (2014) refers to it as curriculum mapping. It clearly establishes and communicates the linkages between learning, assessments and specific competences.

A study carried out in Korea by IBE-UNESCO(2012),revealed that a CBE is not in conflict with the existing curriculum and that specific subjects continue to provide a critical path in promoting acquisition of key competencies such as communication and efficient management. The study further shows that competency skills recommended for Elementary level were; problem-solving skills, communication skills and cooperation skills. A survey conducted in Ghana by COTVET (2009), it was affirmed that Competency Based Training is an industry and demand driven education and training programme, its products have a high demand on the job market.

Rychen and Salganik (2001) carried out a study which revealed that a creative person should have divergent thinking, problem solving skills, originality, and ability to see or create new values. Considering the convergence on the need to nurture creativity in the curriculum and the literature encountered, constructs of problem solving, divergent thinking, research and innovation will find their place in the content of the proposed curriculum.

The Primary school education curriculum should have a prime interest in developing various competencies within individuals. It should realistically make room for learning to embody the opportunities to "know," "show" and "do." It is through such engagements that learners are fashioned in their competencies, social behaviours and other aptitudes as required, but not limited to their environments (Nanzhao, 2000).

2.7.3 Learning Areas

A study by Herman (2011) who investigated the role of vocational oriented education with that of national educational institutions in 18 countries and found that the students who come from vocational stream acquire the skills better than the others who do not have the vocational orientation. The vocational streams of students have better chances to get employment as well as higher salary because of the skill set they possess.

The teaching and learning of Mathematics, Sciences and Languages is important to the assimilation and acquisition of the 21st century skills. Since, the country's Blue- print for economic development flags the teaching of Mathematics, Languages and Sciences as being vital to the country's development. Studies have also shown that countries like Singapore and Malaysia with high technological development have put great emphasis on mathematics and sciences as a foundational requirement for their technological advancement (Government of Malaysia, 2012). Similar studies carried out in Singapore indicate the emphasis on the 21st Century which include creative and critical thinking, communication and collaboration, and social and cultural skills. These are core values that the Singapore education system sets to cultivate in all its students (Soland et al. (2013) and Voogt&Roblin (2012) pointed out that in Japan, as in Singapore, the competencies and pedagogical moves associated with 21st Century competencies are seen as a central means of using education to ensure sustained economic prosperity in the years to come.

These 21st Century aspirations have been articulated in a New Growth Strategy (2010) announced by the Japanese government as well as in "The Future Vision on Career Education and Vocational Education at School," by the Ministry of Education, Culture, Sports, Science and Technology (2011). Further, the 21st century competencies in the Japanese classrooms were not dissimilar from Singapore: problem solving, communication, collaboration and use of Information Communications Technologies (ICT).

2.7.4. Resources

KIE (1999) indicate that teaching and learning materials such as textbooks and other reference materials are available; concerns were raised about the quality of the recommended materials.

As Ngware, Wamukuru and Odebero (2006) observe, quality and adequacy of resources such as physical facilities have a direct bearing on quality as they determine how effectively the curriculum is implemented. These scholars have argued that quality education cannot be achieved and sustained if the resources and facilities are not available in sufficient quality and quantity. Apart from textbooks, AHPRC (2010) have observed that teaching aids significantly contribute to learner achievement. Developing and using appropriate teaching resources have been proven to improve learners' achievement. It require teachers who are creative, proactive and who appreciate the power of resources in enhancing performance.

According to Twoli, Maundu, Muindi, Kiio, and Kithinji (2007), Oluoch, (1990) and Beswick, (1975), the expanding scope of knowledge in many areas of education, necessitates the teacher to be aware of the diverse types of teaching resources available for use, as well as those that can be prepared using locally available materials. Twoli et al., (2007), recommend that the teacher should carefully prepare a wide spectrum of learning materials, and effectively use them during the teaching-learning process. Apart from teachers, field officers and head teachers have a part to play in helping teachers to use teaching and learning resources. KICD (2014) study on educational resources indicated the need to sensitize head teachers and education field officers on the key role that teaching and learning resources plays in the teaching learning process. This will help the school administration to encourage and support teachers in their quest to develop teaching and learning resources.

2.7.5 Pedagogy

The instructional strategies adopted by teachers determine what will be learnt by the learners. An assertion made by AHPRC (2010) in classroom observation study for mathematics implies that pedagogical content knowledge was a major factor that influences how much content is learnt. Additionally, Osakwe (2009) in the AHPRC study (ibid) identify some variables for quality classroom instruction that include attitude of the teacher, knowledge base, mastery of subject and social cultural context. Effective communication by the teacher enables this context to be well utilized to facilitate learning. Individual attention to learners is therefore important too in enhancing learning. Darling Hammond (1990) opines that policies on teaching affect the teachers directly and hence if pedagogy has to change as a matter of policy, the policy too has to pay attention to the knowledge base of the teachers. Wanzere (2002) suggests that there is need to

enhance the competence of the Kenyan teachers in the light of rapid, intensive and fundamental nature of present day technological, economic, cultural, societal and political changes.

2.7.6 Talents

The National Youth Situation Analysis Report of 2009 indicates that majority of Kenya's population comprises of youth aged between 15 - 29 years. The report further noted that the youth have talents but have no opportunities to exploit or market them. The report recommended the need for resource centers where the youth could spend time to gain useful skills and develop their talents such as sports, music and art. In response to this challenge the Kenya Government through the Ministry of Youth Affairs and Sports established a pilot National Youth Talent Academy in March 2010 to provide the youth with an opportunity to identify and nurture their talents. Every society has its specially gifted persons who need to be given opportunities to develop and exploit them to their full potential. These people need to be identified early in life so that their talents can be nurtured for the benefit of themselves and the society (Kinyua, 2014).

There is no one universal definition of gifted and talented learners. In the United States of America, The No Child Left Behind Act (Elementary and Secondary Education Act, 2002) define Gifted and Talented as children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services and activities not ordinarily provided by the school in order to fully develop those capabilities. In Australia Gifted and talented learners at School are defined as those who demonstrate or show the potential for a high level of performance in different ability areas, when compared to others of similar age, background and experience such as intellectual; Creative; Artistic; Social; Physical; Spiritual (Department for Education and Children's Services, 1994).

In Korea, Article 2 of the education Act defines a gifted person as one who possesses extraordinary innate abilities or visible talents requiring special education to nurture them'. The Act gives the purpose of gifted education as: 'to promote self-actualization of individuals and have them contribute to development of society and nation by scouting for gifted and talented persons and carrying out education suitable for ability and aptitude in accordance with regulations so they can develop innate potential. In addition, the gifted education is aimed at

helping gifted and talented persons to acquire expertise, creativity, leadership, morality and self-directed learning attitude in accordance with other legislative provisions which say that all members of a nation shall have right to education according to ability and aptitude to promote self-actualization and contribute to development of society and nation.’

The Gifted Education Programme was first implemented in Singapore in 1984 amid some public concern. It was initiated by the Ministry of Education (MOE) in line with its policy under the New Education System to allow each student to learn at his/her own pace. The MOE had a commitment to ensure that the potential of each pupil is recognized, nurtured and developed. It was recognized that there are pupils who are intellectually gifted and that there should be provisions to meet their needs.

In Kenya, Koech (1999), Kochung’, (2003) and Kang’ethe, (2004) defined gifted and talented children as those who at any educational level are identified as possessing demonstrated or potential abilities that give evidence of high performance capabilities in areas such as general intellectual ability, specific academic aptitude, creative and productive thinking, leadership ability, visual and performing arts and psychomotor abilities, while Kinyua (2014) define gifted and talented children as those with outstanding talents, who perform or show the potential of performing at remarkably high levels of accomplishment when compared with others of their age, experience or environment.

The Presidential Working Party on Education and Training for the Next Decade and Beyond (Kamunge Report, 1988) noted that every society Kenya included, has its specially gifted children who need special education to develop their special intellectual, creative, artistic or other talents to the maximum level possible. Accordingly, the committee recommended that such children be identified early and special programmes developed to enable them to realize their full potential in order to enable them to contribute to the society. Special educational programmes for such children should be developed in the interest of national development. The committee proposed the establishment of “Centers of Excellence” as pacemakers for advanced knowledge and technology in order to meet the needs of the society.

According to Kang'ethe and Mugo (2010), from 1964-2005 several gaps existed which showed inconsistency in the implementation of educational policies and programmes. They also noted that children who are Gifted and Talented are not mentioned in most of the Education Policy documents in Kenya. According to them there has been no clear commitment and political strategy targeting gifted and talented persons. During the National Conference on Gifted and Talented Young Persons in Kenya (2010) it was noted that Kenyatta University and Kenya Institute of Special Education (KISE) train teachers for learners who are gifted and talented yet there are no programmes for learners who are gifted and talented in Kenya.

2.7.6.1 Identification Methods of learners who are Gifted and Talented

No single method of identification is appropriate for all types of gifted students. Multiple criteria should be used which should include gathering as much information about the learners as possible. Teachers are required to identify learners who are gifted in the whole process of learning. The identification process should be continuous. Schools should also evaluate their systems to ensure that they accommodate learners who are gifted and talented. Progress of the identified learners should be monitored to ensure that, the programme is meeting their educational needs (Kinyua, 2010).

The five key principles of identification according to Richert (1991) are: Defensibility-: procedures should be devised to identify learners in all domains of giftedness and fields of talent; Advocacy-: teachers should use assessments to promote learners' interests and should not expect learners to perform equally well on all measures ; Equity-: there should be equitable procedures for identifying groups who may be disadvantaged by the mainstream identification procedures; Comprehensiveness-: there should be the appropriate use of multiple sources of data; and Pragmatism-: identification needs to be consistent with the level of resources available (Richert, 1991). Unfortunately without a common definition or understanding of learners who are gifted and talented, it becomes difficult to design their education and what it should entail and even methods of nurturing the talents.

2.7.7 Assessment

At a time when the teaching of the 21st Century skills or competencies is coming to the fore, measurement of competencies and other soft skills is important (Mugo&Asiago, 2015). These are currently not catered for by assessments in Kenya schools. The taskforce report (2012) pointed out that teachers are poorly prepared to develop tests and evaluate learning. Formative assessment which should assess continuous learning do not play a major role improving learning but of preparing learners on handling the national exams. A worrying trend is that schools find it easier to buy commercial exams from which teaching is done. These are prepared by entrepreneurs and not necessarily persons in education. The problem may be rooted also in how the training of teachers was conducted.

With the competence based curriculum, there is need to conduct assessment for learning; meaning that teachers can utilize assessments as analytical tools to improve students' learning (Mugo&Asiago 2015); it's a part of teaching and learning process and not an after process activity. Maclellan (2001: 307-318 in Mugo&Asiago 2015) observes that *'assessment for learning must be contextualized and represent meaningful tenets of human achievement with skills and competencies that are used in real world context'*. These assessments dwell on cognitive domain at the expenses of other learner attributes and competencies. Teachers with less cognitive potential are greatly disadvantaged. Hence teachers dwell in these low levels of the bloom taxonomy in the teaching because experience and routine has proved that this is all the national exams require; factual knowledge and repetition.

Teaching practice which constitutes the most functional part of the teacher preparation is a subject of debate (Odhiambo, 2008). The common complaint is that theory dominates the curriculum and practice teaching continues to suffer from inadequacies of different kinds like: practices follow a mechanical routine (observation, micro teaching, teaching practice and examination) (NASBE, 1999) and exhibit no variety or original thinking, rigid lesson plan format, lack of variety and context specificity in teaching, evaluation of student teaching in terms of number of lessons, few attempts towards comprehensive, qualitative evaluation covering professional attitudes, values, lack of provision for internship and total school experience, inadequate mentoring and supervision (Siddiqui, 2009).

2.7.8 Crosscutting Issues

On mainstreaming of emerging issues in the school curricula, KICD (2014) conducted an assessment across primary and secondary schools and found out that emerging issues were not mainstreamed in all subjects, and not all teachers had knowledge on mainstreaming possibly because of insufficient training in this area. Owino (2013) observed that as a non-examinable subject, Life skills education becomes relatively inconspicuous and also negative attitude from both teachers and learners down plays the role of implementing the cross cutting programmes in the curriculum.

The KICD study confirmed that the attitude of teachers and learners impeded the teaching and learning of emerging issues. Teachers lacked commitment and passion as there was more emphasis laid on subjects that were nationally examined. Among other challenges cited in the teaching of emerging issues were inadequate teaching and learning resources, inadequate time, too much content and areas to cover under emerging issues and teachers lacked mastery in handling emerging issues. It was worse for schools with special needs as there are no sign words for emerging issues and school administrators were not supportive (ibid). A study done by UNICEF (2006) on Life Skills Education in Swaziland revealed that teachers did not deem the subject as important since it was not in the curriculum. The MOE study tour report to Zimbabwe and Malawi indicate the need to enhance the capacity of teachers to enable them mainstream the emerging issues into the curriculum as stipulated in the Education Sector Policy on HIV and AIDs.

2.8 Rationale of the Study Based on Literature Review

Apart from the theoretical base, the study is anchored on policy documents and other literature in different contexts. In view of recommendations for major curriculum reforms, the need to undertake curriculum reform I tertiary education is clear and justifiable; more so because of the need to align it with the current trends, the Constitution and goals and aspirations of the national blue print of the Kenya Vision 2030. As early as 2007, the Kenya Vision 2030 stated that;

“There is, therefore a need to re-orient education to focus on the changing economic and technological trends, in line with the national aspirations as expressed in the Vision 2030” (GoK, 2007; pg 82)

The needs assessment survey for the curriculum reform in tertiary level has been necessitated by gaps identified in the literature including the policy documents. They have all shown the need for the desired reforms in the curriculum but have not stipulated how the competence based curriculum for Kenya should be designed. Some have suggested that the development of competence curriculum cannot be done without sufficient data to contextualize it in education for this country. In essence there has been no research done in this area, a gap which this study seeks to address.

This has been summed up by the Sessional Paper No.2 of 2015 and the National Education Sector Plan (NESP) of 2015 which stipulates that according to National Curriculum Policy Framework, the framework would be reformed using the stipulated curriculum development process; and hence the needs assessment survey, which initiates the process of curriculum development. Since no research of this magnitude has been done in Kenya for the tertiary curriculum reform this study stands out as a baseline that will tease out at this initial period the variables for monitoring and evaluation of the competence based curriculum as well as the final evaluation of the cycle.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology used in this study .It covers the research paradigm, approach, sampling methods, data generation techniques process, instruments, validity, reliability, and data analysis.

3.2 Research Paradigm

This study adopted a descriptive survey research design in which both qualitative and quantitative techniques were used to collect data for subsequent analysis.

3.3 Research Approach

This study took a mixed approach. The Concurrent Mixed Approach design was used where both the quantitative and the qualitative phases took place at the same time and were weighted equally.

3.4 Sampling Strategies

3.4.1 Target Population

The institutions targeted in this study comprised of all Teacher Training Colleges (TTC's) and TVET institutions, education field officers and other stakeholders. The study targeted all, principals and lecturers of TTC and TVET institutions. It also targeted all trainees in TTC and TVET institutions, all parents and all key informants.

The study target population for the key informants is presented in Table 3.1

Table 3.1: Targeted Organizations

Organization	Units per Category	Total
Faith Based Organizations	1 per county	2
Education field officers	1 QASO per county 1 TAC Tutor per county 1 EARC per county 1 DICECE officer per county 5 National Quality Assurance Officers	9
KNEC	5	
KISE	5	
CEMASTEA	5	
Universities (Private and Public)	5	
KEMI	5	
KIPPRA	5	
TSC	5	
KNUT and KUPPET	5	55
FKE	5	
Kenyan in diaspora and embassies	5	
	5	

3.4.2 Sampling Technique

The study employed a multistage sampling technique (Mugenda and Mugenda, 2009), which involved random selection of the quantitative respondents and purposive sampling of qualitative respondents

3.4.3 Sampling Procedure for the Quantitative Data

The country is divided into eight geographic regions, as used by the Ministry of Education Science and Technology and each region is sub-divided into counties. From each county, one TVET and one TTC was selected.

3.4.4 Sampling for the Qualitative Data

Sampling was done using purposive techniques leading to identification of several participants, institutions and key informants. A total of ten TTC and 16 TVET institutions were sampled. The participants included college students, parents, teachers, and principal of TTC and TVET institutions, workers in the informal sector and industry, Education field officers and various stakeholder. About 250 memoranda were received. The sampled size of respondents is presented in Table 3.2 and 3.3.

Table 3.2: Sampled Size of Respondents From TTC and TVET Institutions

Respondents	TTC	TVET
Lectures	33	67
Principals	6	16
Trainees	48	112
Student leaders	6	16
Parents	-	8

The sampled size of the field officers, key informants and respondents from the informal sector and industry is presented in Table 3.3.

Table 3.3: Sampled Size of Field Officers, Key Informants and Industry

Region	Field Officers	Informal sector	Industry	Key Informants
Aberdares	10	6	7	20
Mombasa	9	5	7	19
Northern	11	4	4	21
Metropolitan	14	6	9	24
Carissa	6	5	3	8
Lake	9	5	4	21
Mau	12	5	6	18
Nzoia	12	4	6	19
Total	83	40	46	150

3.5 Research Instruments

The Quantitative data was generated using questionnaires which were administered mainly to the principals and lecturers in TTC and TVET colleges. The Qualitative data was gathered using In-depth interviews guides of college student leaders, workers in the industry/informal sector and key informants. Focused group discussions were used to gather data from college students and parents using interview guides. In addition memoranda were sought and received from individuals and institutions from across the country. Observation guides were used for observation of resources available in the institutions.

3.6 Pilot Study

The tools were piloted in ten randomly sampled counties across the country. The questionnaires and interview guides were tested for appropriateness of question items in terms of language, content, clarity, time taken to administer as well as general administration logistics. In addition, the pilot study was used to determine whether the instruments would generate the type of data anticipated and if the type of data desired could be meaningfully analyzed in relation to the stated evaluation objectives. After the analysis of data collected from the pilot study, ambiguities and unnecessary content in the questionnaires and interview guides were addressed.

3.7 Data Generation Process

KICD made a call in the Media for memoranda from all Kenyans on the tertiary curriculum reform needs. KICD in collaboration with Ministry of Education, State Autonomous Government Agencies such as Kenya Educational Management Institute, Teachers Service Commission, Kenya Institute of Special Education, Universities and CEMASTEIA carried out the data collection in two weeks. The County Education offices were the entry points into the selected counties. About 120 data collectors participated in data collection. These were divided in twenty five teams, each comprising of four officers. One on one interview sessions with student leaders and key informants were conducted using digital voice recorders. In the colleges the questionnaires were administered to the principals and lecturers. The adequacy and availability of the physical resources in the tertiary institutions were observed using an observation guide. All the established and accepted educational research ethical standards were adhered to during the administration of data collection tools.

3.8 Validity of the Study

The instruments were given to two groups of experts; one group was requested to assess what concept the instruments were trying to measure. The other group was asked to determine whether the set of items or checklist accurately represents the concept under study. Apart from being tested in tertiary institutions, the tools were presented to a panel of experts and stakeholders for review prior to data collection. They commented on the wording of questions and statements and length of the instruments. Construct validity was done by comparing the items in the tools with theoretical expectations and hypothesized behaviour to see how well they fit. Clear definition of constructs were operationalized and provided so that the study centres on the correct

interpretation of the concepts. Use of mixed method approach also addressed the construct validity of the study.

3.9 Reliability of the Study

The reliability coefficient was established by using the split half reliability technique which involved the administration of ‘two’ similar tests. Two ‘halves’ of the same test were administered on the same sample. The data obtained were correlated using the Spearman Brown Prediction formula. At random, scored items were divided into two groups or alternatively, all the odd- numbered items were grouped together and all the even-numbered items together. Each subject’s total score was computed and the scores from the two groups of items were correlated. Data with a high split-half reliability was considered to have a high correlation coefficient.

3.10 Data Analysis

Quantitative data was analyzed using appropriate descriptive statistics which are supported by the SPSS software. This software provided general statistical information about the participants investigated and assisted in making inferences about the population (McNeill & Chapman, 2005). Qualitative data analysis involved six steps .The first step involved transcribing all the interviews and Focused Group Discussions (FGDs). During the transcription period, all the audio recorded interviews were turned into text material, labeled and filed which became the primary data for subsequent analysis. The data form from the memoranda in script and was filed appropriately. In the second step a one week workshop was held in Naivasha for the officers involved in the data analysis using pilot data as dummies. Then, they got involved in first reading the transcripts to obtain the general sense of the information and to reflect on the data’s overall meaning. The third step was coding, which took place in three stages: open, axial and selective described in Creswell (2007) and Braun and Clarke (2006).

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.0 Introduction

This chapter presents the findings and discussions of tertiary level needs. The findings are presented in two different sections, which are Teacher Education and TVET

4.1 Teacher Education Needs

4.1.1 Introduction to Teacher Education Needs

This section presents the findings and discussions of tertiary level needs. The findings are presented in themes that are based on the objectives of the study which include: General teacher education needs ,competencies, content/learning areas, talent identification and nurturing, pedagogical approaches, teaching and learning resources, assessment and cross cutting issues

4.1.2 General Teacher Education Needs

Teacher education in this study cover institutions that train teachers that teach at all levels of learning apart from the universities. Societal needs are considered to be what the people who constitute the population of a country need for their lives to be productive and happy in the local context. This study sought to find out the general needs of teacher education. Responses were sought from teacher training college lecturers and principals through questionnaires. Information from the students and parents was sought through focused group discussion. The student leaders and key informants were interviewed. The teacher training college lecturers and principals were asked to indicate the extent to which some identified societal needs should be emphasized in TTC curriculum using a five-point Likert Scale. They were required to indicate their choices by selecting one of the choices given as N for Not at all, VL for Very little extent, NS for Not sure, S for Some extent and G for Great extent. The responses were weighted out of 5 and percentage mean ratings derived. The responses of the TTC lecturers and principals on extent to which societal needs should be emphasized in curriculum are presented in Figure 4.1.

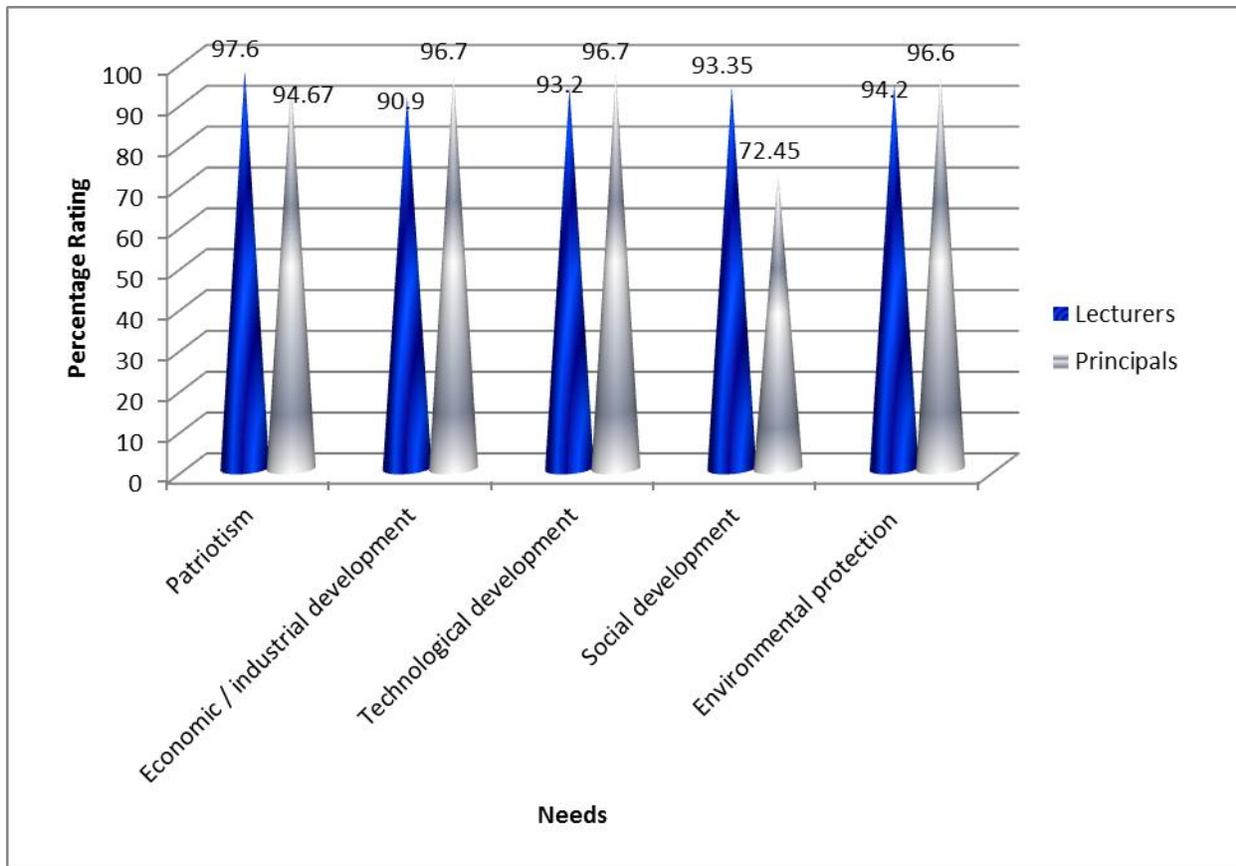


Figure 4.1: Responses of Teacher Training College Lecturers and Principals on Societal Needs

Figure 4.1 shows that the lecturers rate patriotism the highest societal need to be emphasized in teacher education curriculum at 97.6%, followed by environmental protection at 94.2%. The Principals rate economic and industrial development and technological development highest at 96.7%. This is followed by Patriotism, environmental protection and social development with the ratings of 94.67%, 96.6% and 72.45% respectively. The key informants, students and parents are in agreement with the lecturers and the principals in TTC in advocating for social development needs in teacher education. The college students in addition advocate for the scrapping of P1 certificate course and instead upgrade it to diploma, because the P1 certificate is more expensive than diploma

Student: P1 certificate should be done away with, upgrade to diploma. The P1 certificate costs 160 KSH while the Diploma is less yet it's of higher value. (CS - FGD - TTCPKIL – KIL)

Student: The course should be elevated to diploma and duration to be increased to 3 years. (CS - FGD - TTCMAC - MAC)

KI: The minimum qualification should be a diploma .For lower primary and early childhood

education, better qualified teachers need to handle the pupils because this is the foundation of their education (**JWM-IS**).

The trainees suggested that their course should prepare them to be able to develop a whole child who is able to fit well in society

Student: As a teacher you need to be able to prepare and develop children to be effective in society and it needs many areas we cannot just be taught examinable area, we must be taught how to develop the learners. (**CS - FGD - TTCPKIL – KIL**)

The key informants said that there is need for competent teachers who are able to identify learners' needs, offer guidance and counseling and have the ability to cope with different culture

KI: To identify the needs. To create content. ...how many teachers do we ... who if you remove textbooks in their hands they are as blank as the next person in the market. The third one would be, our teacher education is still ...Guidance and counseling teacher whose job is to guide and counsel... The job of teaching is actually guidance, the job of teaching is actually counseling so for me every teacher should of necessity in teacher education be given a good dose of guidance and counseling during training ... we have teachers who can only perform in their homes. They cannot adapt to other climates, they cannot adapt to other environment so we need to give them the ability to diverse in culture.(**KI: CHA- NYA**)

The key informants proposed the need for frequent in-service course for teachers to update them on the changes in the education, and suggested the course should be on proficiency not on content.

KI: Pedagogy, in-service, attitude, training on talents identification should be focused on application not the theories (**KI-WIP**)

KI: I also totally feel that we need to do refresher courses if the teachers rise to the level of becoming a principal or a head teacher I feel it should not be the many years you have stayed in school there are some who are young and can be good managers and not everybody who is a teacher can a manager-(**KI -CPC -NAI**).

KI: I think with change of time things have changed. I totally feel like after every five years there must be special exam that teachers should sit so that these exams determines what level they are at. Whether you need refresher courses or whether you are weak at some point you need to be helped because you know again we are different and we cannot say all teachers go and do mathematics. I don't think we are doing it right we need to be very specific, identify the weak points and the teachers can actually say the ones who were trained earlier may be they were not computer literate, so after five years there can be some of things that tells you must be computer literate by this time(**KI -CPC -NAI**).

KI: In the teaching education we need to mount regular in subject for our teachers, secondary school association do workshop for them but primary school teacher has left 30 years down the line nobody has in serviced them, so they keep on using the same content... officers from KICD

who had come and we called the private school teachers and most of them had not seen the syllabus they were using the outdated, so I think of in servicing and professional development workshop, and then we need to look at the content that we are teaching at the college level, university level so that we meet the demand. **(KI-CDE-KIT)**

KI: There is mass production of teachers and many of them when they come ...in fact you spend more time managing the teacher than managing the child. **(KI-CEE-KAK)**

KI: we must have a well programmed teacher in service training which is graded and is a must you go through this training to go to the next stage ,no promotion if you haven't gone through the said stage i.e. Japan we should train the teachers to change them. Pre serviced teacher syllabus should come out in time that those who come out of the system are already in the system when it is being implemented. ... For serving teachers the need rigorous in-service retraining; it is not training on the syllabus but it is on proficiency not the content. TPC is for promotion but this is for reengineering the teacher rebuilding the teacher in the content in service is for everybody and should focus on 21st needs of the century. Curriculum is endangered if granddads graduate with yesterday skills. **(CEB – OYA – SIA).**

KI: Constant capacity building of teachers is important. You know we have teachers who just come into the system and just stay there. I like what the teacher service commission says, that these people should be renewing their licenses... **(KI-TCD-GAR)**

KI: A provision for the teacher within five years to have at least an added capacity for at least one year of capacity building **(KI-MCDE-BUS)**

KI: they need to create time for a course to also to update their skills and knowledge... go for deduction even for three months to update certain skills that can help the coming up students...sustainability continues ... So that when the target group has been trained for consistence that every two years people will be going to update their skills in this area ...people will teach practical project method they will use all other method that can enhance capacity in children ...**(KI-NAC-BUN)**

KI: Change of attitude, in-service and pre-service training of teachers on pedagogy and mastery of subject to be taught. **(KI-TCD-GAR)**

KI: There is no quality of education that is higher than teachers, we have to improve of education to improve the quality of teacher, and if we have to improve the competency of learners then it must come from teacher... the government and ministry they are coming up with policy. ..How long must a teacher go back for training? **KI-CEM-NAI)**

KI: they need to create time for a course to also to update their skills and knowledge... go for deduction even for three months to update certain skills that can help the coming up students... sustainability continues ... So that when the target group has been trained for consistence that every two years people will be going to update their skills in this area ...people will teach practical project method they will use all other method that can enhance capacity in children **(KI-NAC-BUN)**

KI: The role of the teacher is so central and focuses to be given on the 21st century teacher we need. Signing of teachers' contracts should be made compulsory. Gender equity and equality should be stressed. **(KI-FAWE-NAI)**

A key informant mentioned that there is need to update the capacity of the teacher trainer and the trainer of trainers at the university.

KI: So we need also to put structure and systems to improve the trainer of the teacher and the trainer of the teacher trainer you need those systems... Yes, improve the ways teachers are training. **(KI-HQUASO –PWANI- UNIV)**

The key informants and the memoranda proposed review of admission criteria for teacher trainees at PTE and diploma level. Currently, the entry levels are very low and proposed that students who get grade A should be the ones joining teaching profession in order to make teaching profession at par with other careers.

KI: I feel that as we seek for doctors to have A, the people to join teaching should be the people who are A and they should be paid very well. Why? A teacher teaches other professions, so teaching is biggest profession ever because you are taking care of other professions. How do you teach me to become a doctor and you performed poorly? Are you teaching me to get an A and you got a c+ or c-? The students who pass very well, the A students should actually go into teaching so that they can be lecturers and teach doctors who might have scored B or an A- . But teaching must be the best paid profession in this country **(KI- CPC- NAI).**

ME: The minimum qualification should be a diploma .For lower primary and early childhood education, better qualified teachers need to handle the pupils because this is the foundation of their education **(JWM-IS).**

KI: Basic qualification, for people going to be teachers should actually be higher...the most important thing for a person is the content that that person has. But the content they have gotten in high school is key and the potential they have...we have teacher education ECD, then primary.... Clustering, you know currently we have teachers teaching almost everything. The issue of clustering should arise so that the teachers are clustered **(KI-TCD-GAR)**

KI: We need to reform the curriculum in a manner that attracts students, the top students to teaching, the top students will be the best teachers, if we have the best students and the best teachers delivering a curriculum then, we can expect outcomes of the curriculum to be more effective and the impact in the market **(KI-SGKN NAI)**

A key informant suggested that the teacher should provided with good salary, adequate resources, better house and traveling allowance as a motivation in their work.

KI: yeah our teachers need to be motivated, in all ways possible... in all possible ways, he is better than anything in the world... before you become that doctor, you pass through that teacher. The teachers, they determine so many things in our society right from primary, secondary...., that's the person who will determine life, all of us here, remember our nursery teachers. Partially the reason we are the way we are, so I think our teachers, better salaries, better resources, better houses, allowances, traveling, will be motivated. **(KI-FGD-PWN)**

A key informant emphasized the importance of adequate preparation of teachers in order for them to be able to effectively implement the envisaged curriculum.

KI: We can come up with good curriculum but if we don't train our teachers well, they will not be able to implement this curriculum (**KI: REG-LAU**)

A key informant was of the opinion that teachers should be role models to their students.

KI: We might not succeed if we just look at the curriculum in our schools and ignore the implementers. You can have the best of the curriculums in the world but those to implement it are not ready for it or are not well trained, there is a big problem in fact it would be advisable especially from your end look at the curriculum in teacher training, look at the curriculum students learn at the university because the character of the teacher is what forms the child and even in Kenya I know we have the history of good teachers who are known and whose products are seen because like Griffins of Starehe and even the one of Alliance Khaemba you know people are looking up to them as role models because the students they produced can be seen. (**KIT – BIS-ONY – HOM**).

A parent suggested that teacher training colleges should impart enough skills and competencies to their trainees.

Parent: You may find a teacher is supposed to teach computer, but him is not trained. Technical schools used to train teachers thoroughly. The teacher would be very competent in what they do. But today the teachers are shallowly trained. The training of the teachers should be thorough. If it's a teacher for tailoring, he/she should be well trained. (**PA-FGD-UNOAP-MAK**)

The students expressed their desire for education to enable the trainees to be persons who are not only holders of certificates but responsible in society and transformers of the community where they come from and to enable their students to have skills.

Student: We are saying that the education must produce teachers who are positively responsible to the society, individuals who have not only certificates but who can help the community, and must also produce students who have specific skills (**CS - FGD - TTCPCBAR - BAR**)

Key informant said there is a mismatch in training colleges in relation to what trainers learned at the university and what they actually handle at the TTCs.

KI: They have been let down. People training in TTCs trained in university specializing in subjects like Biology, Chemistry but when they go to colleges they are teaching general sciences and therefore do not use the skills they were trained in. Principals who fail to deliver in leadership are dumped here. Are we real getting the right products? Lecturers in university are BSc. Graduates no teaching methodology (**KI – CDE – BUN**).

The key informants expressed the view that the current training of teachers does not provide teachers with adequate practical skills.

KI :our teachers are still former students who are not grounded in practical skills... they also limited, because even at college level they are limited to practical subjects... they have been exposed to listening and talking which is not good (**KI-MCDE-KAK**)

The findings indicate that teacher education is having inadequate teachers, who lack the 21st century skills. This implies there is need for frequent in servicing of teachers to equip them with modern teaching approaches. This concurs with Kiptoon, (1996) that there is concern that quality of teachers produced today is wanting. This also concurs with sessional paper No 1 of 2015 and Kenya vision 2030 that there is need to review PTE curriculum with a view of making it globally competitive.

These findings also concur with MOE strategic plan 2006-2011(2006,2013) that teacher education should develop comprehensive training programme for in-servicing primary and secondary school teachers and institutionalize continuous in service training so as to upgrade teachers skills especially for those trained before the current reforms began. It is also in line with the recommendations made in the Sessional paper No. 1 of 2005 on A Policy Framework for Education, Training and Research, a breakthrough towards industrialization and can only be achieved through application of technology. In addition it concurs with sessional paper No 1 of 2012 on Kenya vision 2030 that Kenya needs to create a globally competitive and adaptive human resource base to meet the requirements of a rapidly industrializing economy which will be done through life long training and education.

The desire to have in-servicing of teachers is similar to what happens in Uganda. In a World Bank documentary (Aidan Mulkeen and Danddan Chen, 2008) it was reported that Uganda provides in-service training, continuous professional programmes in instructional areas.

The finding indicates that there is need for innovative approaches in the pedagogy to enable learners to cope with dynamics of the 21st century. This finding concurs with vision 2030 which places great emphasis on the link between education and the labour market, the need to create entrepreneurial skills and competences. The findings also concur with The NESP (2015) that makes it very clear that the curriculum is expected to empower the citizens with necessary knowledge and competencies to realize the national developmental goals.

In addition the findings indicate that basic qualifications for training of the primary and ECD teacher should be raised and P1 certificate be upgraded to diploma. The upgrading of P1 certificate to diploma is in line with sessional paper No 1 of 2005 and Kenya vision 2030 which has a strategy to develop new teacher training policy based on the current and projected needs whose long term is to have diploma as the lowest level for primary school teachers. This is also

similar to teacher education in Singapore where the Primary teacher Education and Training is a degree Programme which was introduced in 1991(Lee Sing Kongel, 2008).

4.1.3 Teacher Education Competencies

Competencies are outcomes that learners should have acquired by the end of their general education in order to succeed in academic, self-development, and be successful in their jobs. Teachers need to be equipped with some competencies to teach effectively

This study sought to find out the competences that TTC students should acquire. The TTC lecturers and principals were asked in a questionnaire to indicate the extent to which some specified competences should be emphasized in Teacher education curriculum using a five-point Likert Scale. They were required to indicate their choices by selecting one of the choices given as N for Not at all, VL for Very little extent, NS for not sure, S for Some extent and G for Great extent. The responses they gave were clustered into four 4Cs of the 21st century skills. These includes: communication, collaboration, critical thinking and creativity.

4.1.3.1 Communication Competences

The responses on the extent to which teacher education curriculum should emphasize competences clustered under communication are presented in Figure 4.2.

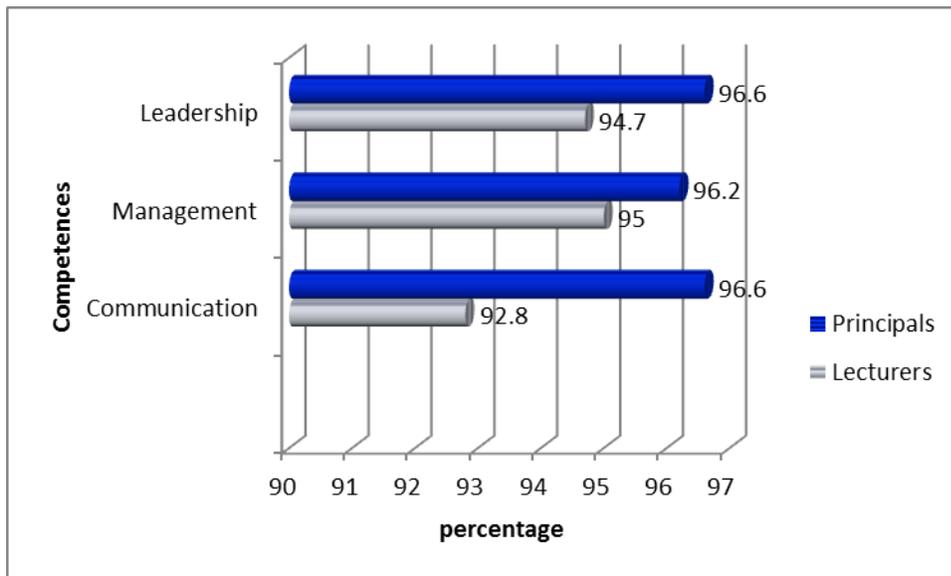


Figure 4.2: Responses of TTC Lecturers and Principals on the Extent to Which Communication, Competencies should be Emphasized in Curriculum

The findings in Figure 4.2 indicate that, all the three competencies (communication, management and leadership) are rated very highly for inclusion in teacher education curriculum with values of over 90% by both TTC principals and lecturers. The lecturers rate management the highest competences for inclusion in teacher education curriculum at 95 %. Teacher training College principals rate communication and leadership as the highest competences, both at 96.6%. These findings are similar to those of college TTC students that mentioned that they needed communications, leadership and managerial competences included in teacher education curriculum.

Student: Since we are teachers we need teaching skills ,Communication skills, sign language, ICT skills ...those talented with Technical skills should develop them fully....Skills in management and administration....Knowledge in specific subject areas and ...I mean specialization.(CS -TTCMAC - MAC).

Student: We should be prepared with communication skills...in English and Kiswahili....so as to teach everywhere in the world, also to teach and deliver in any subject at primary level. (CSL-TTCMAC - MAC).

Student: Ability to work with others as trainees we should know how to handle different children, situations, management of school, and how to handle staff, relationship with the public. Good leadership skills and how to handle students. (CS -FGD -TTCPSHA- SHA).

A key informant indicated that the teachers need good hand writing skills to enable them communicate effectively with learners.

KI: Things like handwriting you start training again a teacher because those are some of the things we are expecting to see the basic skills. They can hardly write on the blackboards neither can they write well. (KI-CEB-NAR)

4.1.3.2 Creativity Competences

The responses on the extent to which teacher education curriculum should emphasize competences clustered under creativity are presented in Figure 4.3

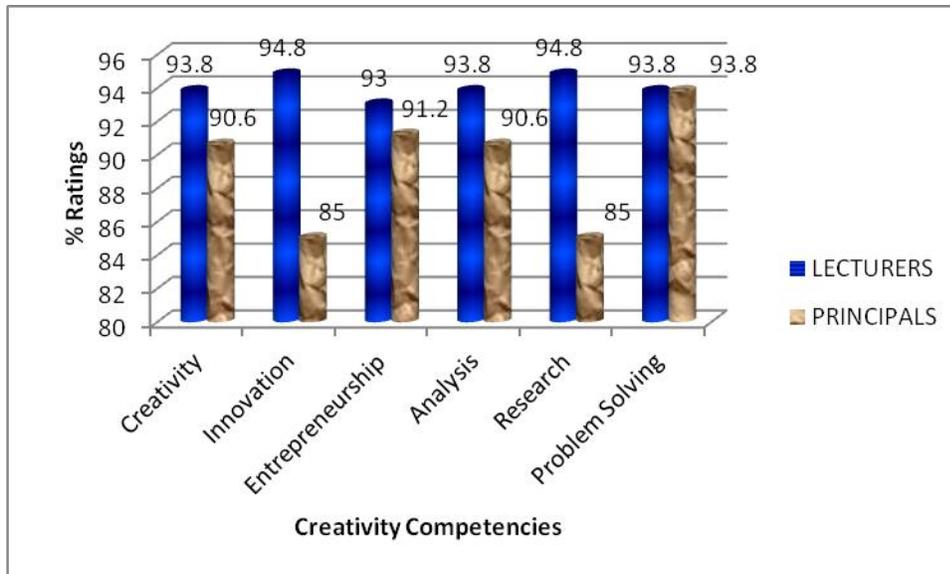


Figure 4.3: Lecturers’ and Principals’ Responses on the extent to which Competencies classified under Creativity should be emphasized in the Curriculum

The findings in Figure 4.3 indicate that TTC lecturers rate innovation and research the highest competencies for inclusion in teacher education curriculum at 94.8% while principals rate problem solving as the highest competency at a percentage rating of 93.8%. The least rated competencies for inclusion in teacher education curriculum by principals are research and innovation which are both rated at 85%.

These findings are similar to those of key informants who said problem solving and creativity should be included in teacher education curriculum.

KI: Soft skills; 21st century skills such as problem solving, creativity, critical thinking and emotional intelligence, creativity and logical thinking; Computer and Digital literacy; Innovativeness, and Teacher professionalization programmes through mentorship. **(ME-CEMASTE A).**

The TTC students said they want all round skills included in the teacher education curriculum to enable them perform better and improve their knowledge.

Student: I want to leave here as an all rounded person ,who can do everything, because we are trained in very many skills of life, how we can improve ourselves, work with the resources and more so how we to live in any surrounding. As a teacher I would like that when I leave this college I should be the one who can deliver what I have learned and impact the values I have learned here in college to the young ones. Because I will deal more with the younger generation **(SL- TTCP- MIG- MIG).**

ME: We need self-driven, all-rounded graduates who are able to comfortably go for self-employment as an alternative to formal employment, considering the increasingly reducing opportunities in the job market. **(BUS.MAN-INF-NAI).**

4.1.3.3 Collaboration Competences

The responses on the extent to which teacher education curriculum should emphasize competences clustered under collaboration are presented in Figure 4.4.

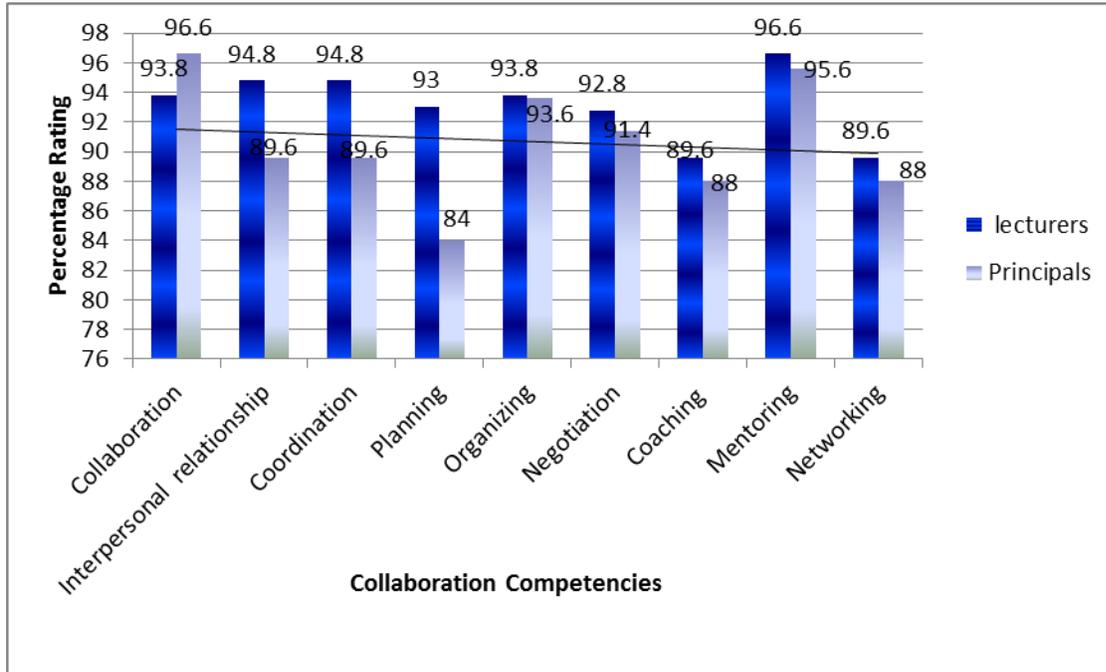


Figure 4.4: TTC Principals and Lecturers Responses on the Extent to Which Competencies under Collaboration should be Emphasized in the TTC Curriculum

According to Figure 4.4 the TTC principals rate collaboration as the highest competency for inclusion in teacher training curriculum at 96.6% while the lecturers rate it at 93.8%. The lecturers rate mentoring (96.6%) as the highest competency for inclusion in teacher training curriculum while the principals rate it at 95.6%. The least rated competence by the principals for inclusion in teacher training curriculum is planning (84%) followed by coaching and networking both rated at 88%. The key informants are in agreement with the teachers and principals that mentoring, negotiations and interpersonal competences should be included in Teacher education curriculum.

KI: Competencies related to life skills development in areas of negotiations, communication, relating to strangers are crucial for young children teachers. For those who are training as their teachers need to be more careful to exhibit the very values desired of the children. **(ME-BK-IS).**

The students, parents and key informants concurred with the principals that interpersonal relationship competences be included in teacher education curriculum. They proposed that teacher education curriculum should include skills on values in order to equip teachers with values that they can instill in the learners for harmonious living. They identified the following values; socialization, corruption, loyalty, self- awareness, peace, negotiation, honesty, and co-existence, selflessness, respect, faithfulness, etiquette, respect, honesty, self-control, patience, ethics and integrity, patience, love, accountability, transparency and cohesion. Some of their statements in support of these were:

Student: Things like racism and tribalism, lecturers should also take time to encourage students. To avoid such acts in school and to have a peaceful nation (CS-FGD-TTCP- KAG-NYE).

Student: I think about the politics in the country...the education should maybe emphasize on integrity (CS – FGD - TTCPP - MAA -KAJ)

Student: Eradicating tribalism and emphasis on national unity, nationalism and emphasis on cohesion (CS - FGD– TTCPMAC- MAC)

Student: Ok. These learners should know that in Kenya, we are living as one. They should know that we are living in harmony with each other. So they should also develop that attitude of mindful to others, being generous to others, honesty, those attitudes (CSL – TTCPP- NAR- NAR)

The students were of the opinion that college students need to be taught how to avoid tribalism and corruption.

Student: I think we need to be taught how to co-exist as Kenyans...we need to be taught how to avoid tribalism...corruption and so on. ... (CSL- TTCPMAC -MAC)

Student: Yes they can. When you involve them in these issues like sharing together...they will also know that this is part of me, so that they avoid the situation of saying you come from this or that tribe (CSL – TTCPP – NAR - NAR)

The students and key informants said that teacher education should cover skills on conflict resolution and harmonious living.

KI: Issues concerning conflict resolution be included, assessment should be comprehensive. . (KI KPSA UG)

Student: Maybe conflict resolution...yeah it can help. If there is conflict between people, between families, you can use the knowledge that you have and it would really help in resolving the crisis (CS – FGD - TTCPP - MAA - KAJ).

Student: They should know how to walk together as a community. For example, in school here, we are encouraging our students here as we are being encouraged by our teachers to work together in group work. We are promoting that coming together. In working with this person, I will assist him or her and they will assist me too. That coming together enables people to socialize and also use their time in a positive way (**CSL – TTCP – NAR - NAR**).

The memoranda proposed that curriculum should revive the values of the society which have been lost such as honesty, diligence, care, compassion and patriotism.

ME: Values are eroded in our contemporary society. There is need for a curriculum that emphasizes on reviving values like honesty, kindness, love, unity, trustworthy in young children. Such values will uproot corruption which is the cancer of the nation. (**ME-DBK-IS**)

The key informants indicated that teacher education curriculum should not only put a lot of emphasis on content but also emphasize on other aspects of life like humanity and dignity. The curriculum should address aspects like care, happiness, and love.

KI: The value of the education is not just the degree. There are the other aspects of our life, humanity, dignity, values, one needs to know. Basic things that are in us... all the other things we used to see in national schools competitions at KICC. The first thing we look for is a happy child. .. So our curriculum doesn't teach us to care, you know. It doesn't teach us to care, or to love. (**KI-CITAM- NRB**).

A key informant indicated that teacher education curriculum should include skills on how to handle indiscipline among learners.

KI: The total ban on corporal punishment in 2001, teachers have not been equipped with different skills of handling indiscipline among learners... For sustainability, teachers should be imparted with positive discipline skills. (**ME -KCP-RI**).

4.1.3.4 Critical Thinking Competences

This study sought responses from the TTC lecturers and principals on to extent to which competencies classified under critical thinking should be emphasized in teacher education curriculum. The responses are presented in Figure 4.5.

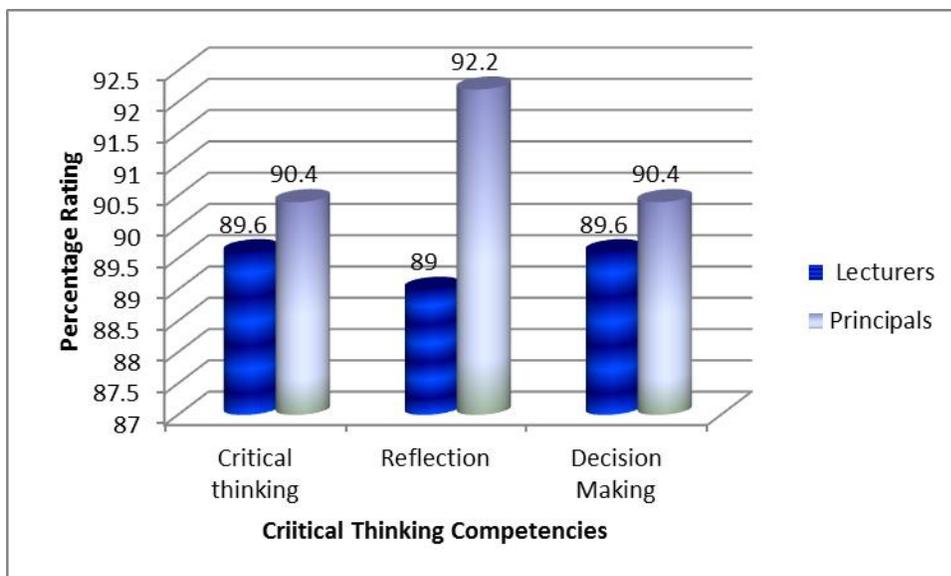


Figure 4.5: TTC Principals and Lecturers Responses on the Extent Critical Thinking Competencies Should be Emphasized in the Curriculum

From the findings in Figure 4.5 all critical thinking competences are highly rated above 85% for inclusion in teacher education curriculum. The TTC principals rate reflection as the highest competency for inclusion in teacher training curriculum at 92.2 % while the lecturers rate it as the least competency for inclusion in teacher training curriculum at 89%. The principals rate both critical thinking and decision making competencies at 90.4%.

A key informant was of the opinion that teacher education should include competencies on hygiene.

KI: Those are some of the things we are expecting to see the basic skills... You find even the teacher doesn't understand they go to the toilet and doesn't wash their hands. Even sweeping you find like you should pour water on floor before sweeping but practically you don't find the teacher doing that, you find the teacher supervising children and there is dust all over so that one is for the exam, the real practice is not instilled in the children. . (KI-CEB-NAR).

A respondent in the memoranda suggested that teacher education curriculum should cover skills on sensitivity and observation in order to train teachers on how to identify and nurture the diversity of learners and their learning needs.

ME: It would be prudent for teachers to be trained so that they are more observant to their student's abilities. My daughter is a left-handed child in intermediate - nursery. Each year, I have to bring to the attention of the teachers about her being left-handed when she faces pressure or 'gently' forced to write with her right hand. If teachers were trained to identify these talents, am sure they would be able to bring out the best in the students. (ME-SN-IS).

The findings indicate that respondents advocated for development of skills in teacher education that enhance life in the 21st century, by producing an all-round teacher who is equipped with skills in creativity, innovation, entrepreneurship, analysis, research, decision making and critical thinking, problem solving and computer. This implies that there is need for competencies in teacher education that are relevant to the needs of the modern society in the curriculum. These findings concur with vision 2030 that places great emphasis on the link between education and the labour market and, the need to create entrepreneurial skills and competences in man power.

It also concurs with sessional paper No 1 of 2012 on Kenya vision 2030 which proposes intensified application of technology, innovation, science and research. Findings are similar to the Task force (2012) recommended that skills on communication, manipulation, social skills, environmental awareness, numeracy, ethical skills should be acquired by learners. The findings are in line with the NESP (2015) that makes it very clear that the curriculum is expected to empower the citizens with necessary knowledge and competencies to realize the national developmental goals.

This further concurs with UNESCO(2000, 4 &14)and Downs Perry (1994, 97) that curriculum must be broadened beyond traditional knowledge-based education to facilitate the development of students' ability to think and act creatively and morally and to successfully practice competencies such as problem-solving, decision-making and negotiating which are considered necessary for life in the 21st century (Dimmock & Walker, 1998, 4; Tien, Ven & Chou, 2003).Further the findings concur with UNESCO(2001) that teacher education should provide reflection, assimilation of new ideas, development of self-directed learning and the ability to think, creativity and innovation.

The findings agree with Republic of Kenya (2005) that education must nurture the entrepreneurial skills, creativity skills and skills needed for interaction and harmonious relationships. The findings further concur with what happened in countries like Singapore and Malaysia with high technological development and have put great emphasis on mathematics and sciences as a foundational requirement for their technological advancement. The Malaysian education system, like others around the world, has emphasized the development of strong

content knowledge in subjects such as science, mathematics, and language (Government of Malaysia, 2012).

The findings are also in line with studies carried out in Singapore (Soland et al., 2013; Voogt&Roblin, 2012) that emphasize on the features of their framework for 21st century which include creative and critical thinking, communication and collaboration, and social and cultural skills which were core values that the Singapore education system hoped to cultivate in all its students.

Likewise findings also concur with Soland et al. (2013) and Voogt&Roblin (2012) who pointed out that in Japan, as in Singapore, the competencies and pedagogical moves associated with 21st Century competencies are seen as a central means of using education to ensure sustained economic prosperity in the years to come.

4.1.4 Content/Learning Areas in Teacher Education

The school curriculum defines learning areas as content to be taught and learned, by whom, when and where (UNESCO- IBE Korea – 2015). Relevant content need to be taught in TTC institutions that will enable the trainee acquire the relevant skills and competences that they would apply in their work after training. This study sought to find out the content that needs to be taught in TTC. The lecturers and principal teachers were asked to indicate the extent to which some identified learning areas should be emphasized in the TTC curriculum using a five-pointer Likert Scale. They were required to indicate their choices by selecting either ‘N for Not at all’, ‘VL for Very little extent’, ‘NS for Not sure’, ‘S for Some extent’ and ‘G for Great extent’. The different learning areas are clustered into broader learning areas. The findings are presented according to the broader categorization

4.1.4.1 Extent to Which Art and Design Should be Emphasized in Teacher Education Curriculum

The responses on the extent to which art and design should be emphasized in teacher education curriculum are presented in Figure 4.6

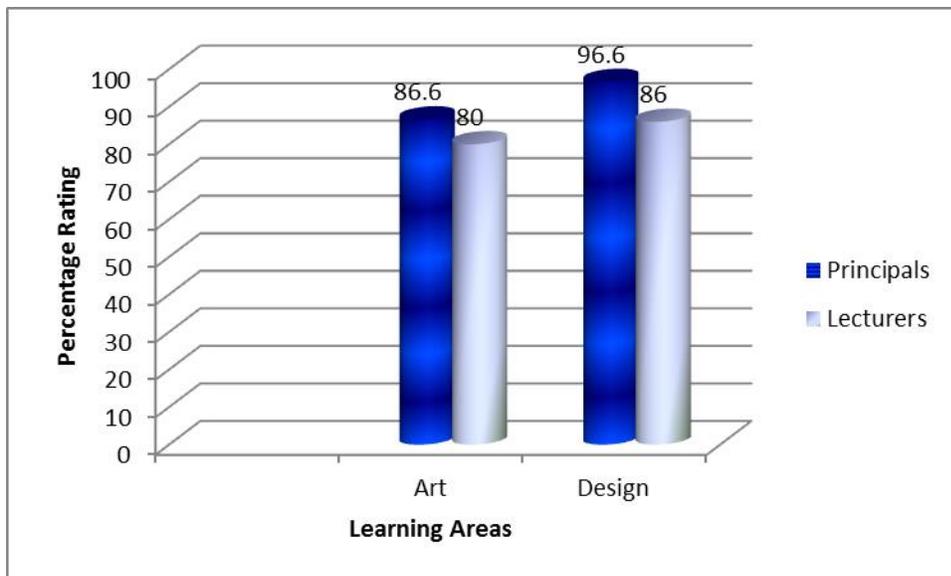


Figure 4.6: TTC Principals and Lecturers Responses on the extent to which Art and Design should be Teacher Education Curriculum.

The findings in Figure 4.6 show that the TTC principals rate design (96.6%) higher than the lecturers (86%) for inclusion in teacher education curriculum. The principals rate Art (86.6%) higher than the lecturers (80%) for inclusion in teacher education curriculum. Similarly the TTC students expressed their desire to be taught art.

Student: Creative arts should be emphasized. (CS - FGD - TTCPMAC - MAC)

4.1.4.2 Extent to Which Agriculture, Technology, Vocational and Technical Subjects Should be Emphasized in Teacher Education Curriculum

Responses from TTC principals and lecturers on the extent to which agriculture, technology, vocational and technical subjects should be emphasized in the teacher education curriculum are presented in Figure 4.7.

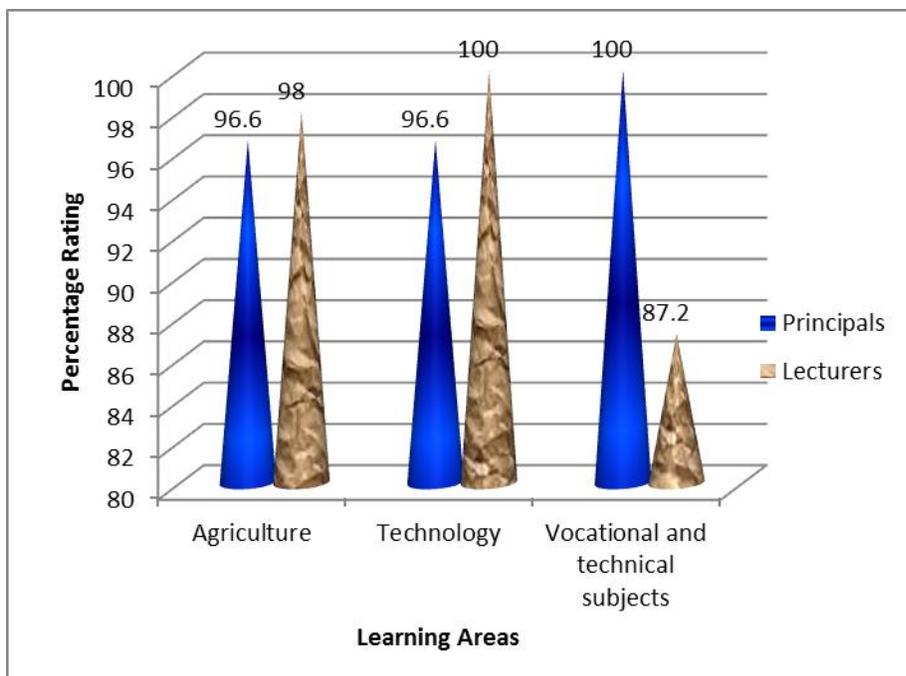


Figure 4. 7: Responses on the Extent to which Agriculture, Technology, Vocational and Technical Subjects should be Emphasized in Teacher Education Curriculum

The findings in Figure 4.7, indicate that the TTC Principals rate inclusion of vocational and technical subjects and technology into the teacher education curriculum at 100 %, While the lecturers rated inclusion of vocational and technical subjects into teacher education curriculum at 87.2 %.The lecturers rated inclusion of agriculture into teacher education curriculum at 98% and the principals rate it at 96.6%. Likewise the TTC students and key informants expressed the need for teacher education curriculum to include agriculture, technology and technical subjects, such as, wood work and metal work.

KI: Soft skills; 21st century skills; Computer and Digital literacy; Innovativeness (**ME-CEMASTE**A).

Student: Technical subjects and agriculture should be emphasized. (**CS - FGD - TTCPMAC - MAC**).

Student: Some pupils are not comfortable working in class but if you impact something in them that can help them to be carpenters, farmers, drivers and we can even be taught something in ICT (**SL – TTCP – MIR – MIR**).

KI: Should also become a mandatory requirement that all teachers must be taken through a curriculum for IT competencies (**KI-CA-NAI**).

Key informants pointed out that teacher education should have ICT integration as a major component to facilitate learning and skills acquisition.

KI: we must integrate ICT as an important tool for the teacher, not only being IT expert but on the resources and changes to information, because ICT should be a gateway to information to enrich and also apply so if we talk about teacher education we should look at teacher in terms of ICT, engagement, we should look at attitude of that teacher, the kind of skills that can help the teacher and make use of content, Teacher Education should be more of practical.... so if we can front Teacher education system at pre-service that delivers those competency towards skills and attitudes and integrating ICT, so then we have a good composition. **(KI-UNESCO-NAI)**

4.1.4.3 Extent to Which Physical Education Should be Emphasized in the Teacher Education Curriculum

Responses from TTC principals and lecturers on the extent to which physical education should be emphasized in teacher education curriculum are presented in Figure 4.8.

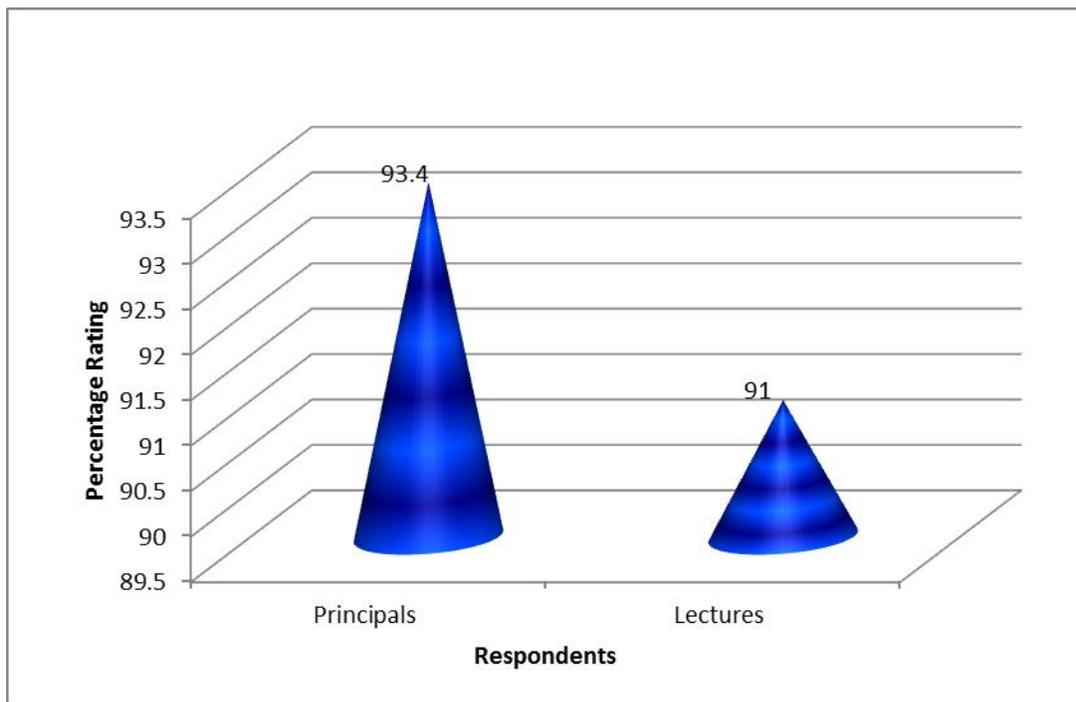


Figure 4 8: Principals and Lecturers Responses on the Extent to which Physical Education Should be Emphasized in the Teacher Education Curriculum

The findings in Figure 4.8 show that Principals rate the inclusion of physical education into the teacher education curriculum at 93.4% while the lecturers rate it at 91%.

TTC Students suggested that non examinable subjects in primary school such as P.E should not be taught in teacher education; however another one contradicted him by arguing that there is

need to learn all because the syllabus can be changed anytime and you have to teach them if they are reintroduced.

Student: Subjects that are not examinable should not be emphasized or learnt at the TTC, for example PE. (CS - FGD - TTCPKILI - KIL)

Student: I think we need to learn all because the syllabus can be changed anytime and you have to teach if they are reintroduced. (CS - FGD - TTCPKIL – KIL)

4.1.4.4 Extent to which Humanities should be Emphasized in the TTC curriculum

Responses from TTC principals and lecturers on the extent to which humanities should be emphasized in the teacher education curriculum are presented in Figure 4.9

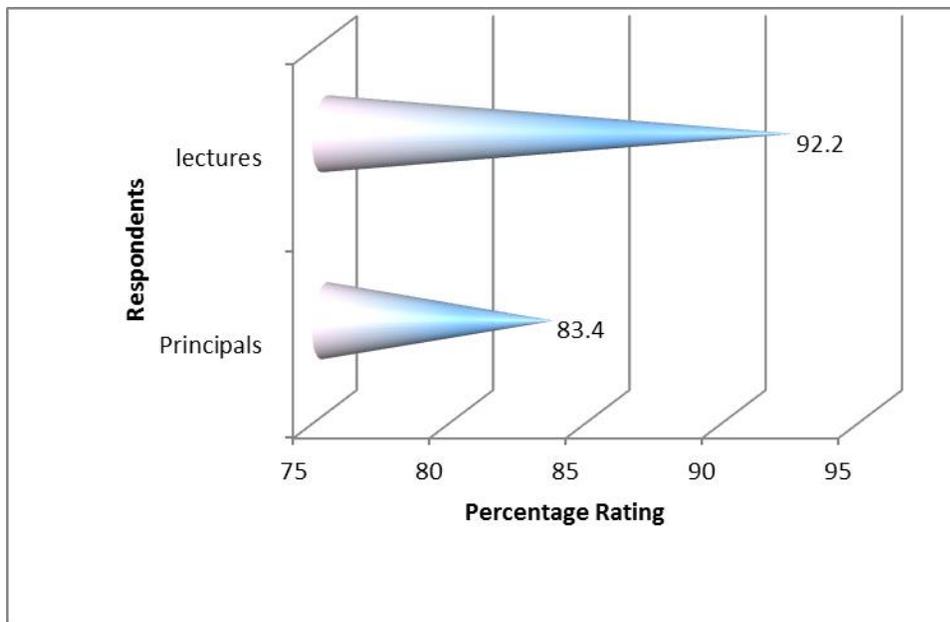


Figure 4.9: Principals and Lecturers Responses on the Extent to which Humanities Should be Emphasized in the Teacher Education Curriculum.

The findings Figure 4.9 show that the lecturers rate the emphasis of humanities in teacher education curriculum at 92.2 % while the principals rate it at 83.4%. Just like the lecturers and principals of TTC, the student and key informants said they want teacher education curriculum to include humanities subjects like CRE which covers values and agriculture. A respondent in the memoranda suggested that CRE, social ethics, and pastoral programs, be made compulsory at teacher education.

ME: CRE be a compulsory subject at teacher training colleges...to promote sound moral and religious values among learners. ..guidance and counseling to be enhanced and offered ...the church to be involved in identifying and recommending teachers who are assigned these subjects

(CRE, Social Ethics, PPI and Guidance and Counseling **(ME-GA-RI)**).

A key informant proposed inclusion of ways of fostering positive discipline among the learners in the teacher education curriculum.

ME: following the total ban on corporal punishment in 2001, teachers have not been equipped with different skills of handling indiscipline among learners... For sustainability, teachers should be imparted with positive discipline skills. **(ME-KCP-RI)**

The key informants and the memoranda expressed the need for the curriculum to include the national values as enshrined in the constitution.

ME: The curricula at different levels should aim to enhance Accountability, Integrity, Responsibility, Peace, Commitment to work, Negotiation, Acceptance and environmental preservation. This can be achieved by involving learners in community service at all levels during holidays hence inculcating Nationhood in learners. **(ME-OCO-IS)**.

ME: Values are eroded in our contemporary society. There is need for a curriculum that emphasizes on reviving values like honesty, kindness, love, unity, trustworthy in young children. Such values will uproot corruption which is the cancer of the nation. **(DBK-IS)**

ME: The content of the curriculum should emphasize ... acting in an upright manner, yet just teaching abstract values will not be enough; we must make them real and practical/experiential so that people have the knowledge to live with integrity. **(ME-WM-AC)**.

KI: I think in teacher education, apart from content... the kind of competency we want to look at a teacher is attitudes and values, the commitment on what they do, the driving force, because if a teacher does not have right attitudes and develop right skills in the process then I think we are lost already. ...Build more of attitudes and how to use the knowledge they have. **(KI-UNESCO-NAI)**

The key informants in addition want teacher education curriculum to include family life and life skills education.

KI: Such things like life skills is not even taught to the teacher for them to deliver so maybe something in the curriculum of teaching something on life skills maybe introduced so that the teacher knows that there is an extra subject to be done in school other than the subject he is coming to teach. **(KI – CEC - SAM)**

The students added that they need to be taught about the prominent people in the society.

Student: we have some people that are in minds of people, though they are deceased but to the people who saw them they felt like they contributed to the being of our country and maybe their participation in politics so much appreciated though we find that such people, some of them are not captured in the syllabus in that the current generations cannot be aware of them ... somebody like Robert Ouko. I've heard so much about him but I've never read anything about him.
(CSL – TTCP – BAR -BAR)

4.1.4.5 Extent to Which Environment and Climate Change Should be Emphasized in the TTC curriculum

Responses from TTC principals and lecturers on the extent to which environment and climate change subjects should be emphasized in the teacher education curriculum are presented in Figure 4.10.

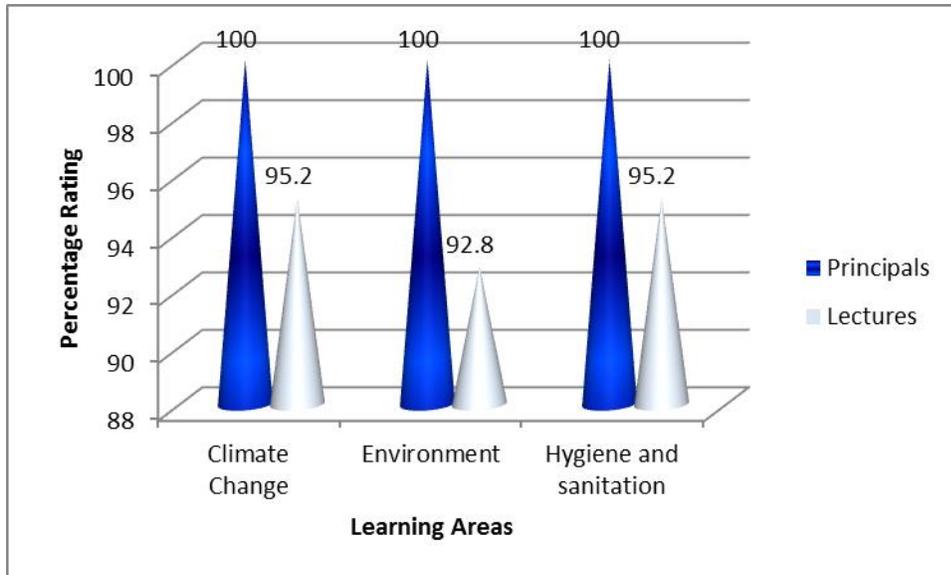


Figure 4.10: TTC Principals and Lecturers Responses on the Extent to Which Environment and Climate Changes Should be Emphasized in the teacher Education Curriculum

Findings in Figure 4.10 indicate that TTC Principals rate the emphasis of environment, climate change and hygiene and sanitation content in the teacher education curriculum at 100%. TTC lecturers rate the emphasis of environment content in the teacher education curriculum at 92.8%. Similarly the key informants and students indicated that environmental studies be emphasized in teacher education.

ME: Environmental conservation including flora and fauna welfare should be encouraged and taught so as to help not only preserve but also have our biodiversity flourish. (ED-AC)

Student: I think there should be more emphasis on core subjects which should be mathematics and environmental studies...I cannot forget integration of leadership skills, nationalism, integrity and constitutional core values regardless of subject of specialization. This is coz as a teacher when you go to that class; you become a leader...a role model for the learners. Otherwise we will be manufacturing wrong characters in the society. KICD should consider that as they do the new curriculum. (CSL -TTCPMAC -MAC)

4.1.4.6 Extent to which Financial Subjects should be Emphasized in the Teacher Education Curriculum

The Principals and lecturers rated the extent to which financial subjects should be emphasized in teacher education curriculum. Their responses are presented in Figure 4.11.

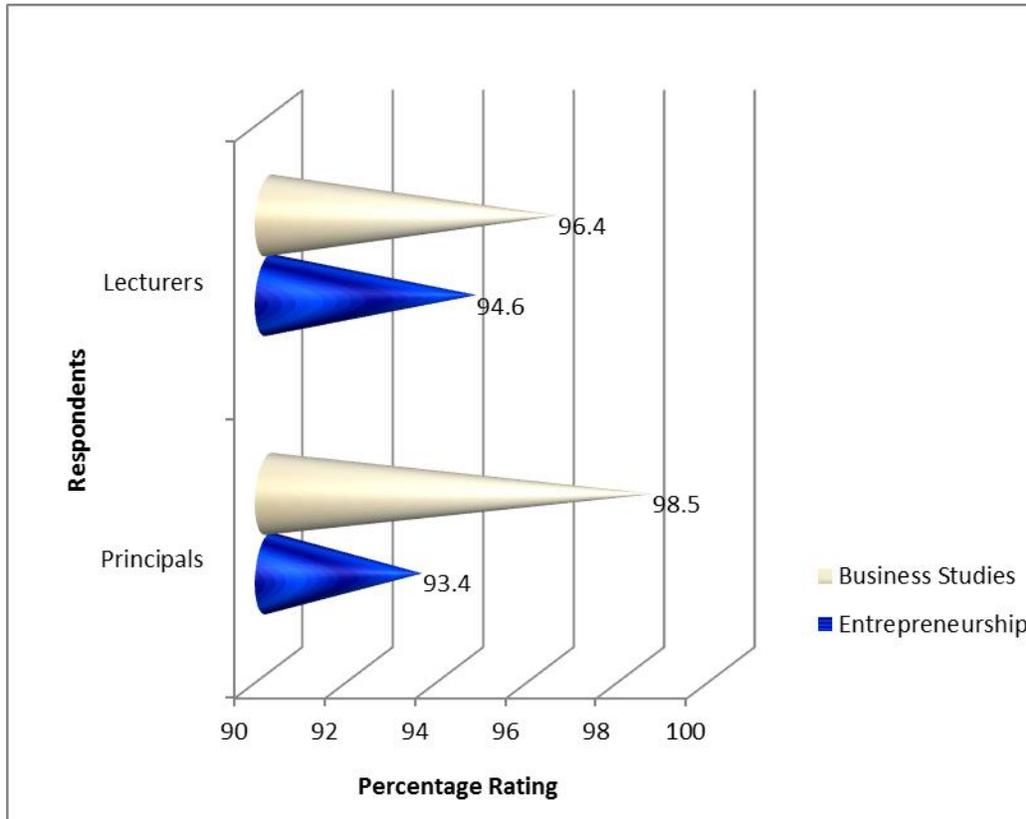


Figure 4.11: TTC Principals and Lecturers Responses on the Extent to Which Financial Subjects Should be Emphasized in Teacher Education Curriculum.

The findings in Figure 4.11 show that the principals rate the emphasis of business studies content in teacher education curriculum at 98.5 % while the lecturers rate it at 96.4%. The lecturers rate the inclusion of entrepreneurship into the teacher education curriculum at 94.6 % while the principals rate it at 93.4 %.The principals prefer more emphasis on business studies into the teacher education curriculum than entrepreneurship. Similarly the TTC students said business studies and entrepreneurship should be covered in teacher education curriculum in order to diversify their skills.

Student: Like introduction to business, entrepreneurship, I think it would be better as we wait for employment by the government. The schools are becoming at least they are increasing the private schools but still they are under paid as you can see if somebody had a business idea as he is awaiting this time, this

period, this 10 Years in future I believe it might go up to 20 years to be employed we need to be diversified (CSL – TTCP- BAR -BAR)

ME: Some of the areas to explore in the revised curriculum should include soft skills such as entrepreneurship, leadership training and mentorship (ME-CO- DN, 2016).

4.1.4.7 Extent to which 21st Century Subjects Should be Emphasized in the Teacher Education Curriculum

The Principals and lecturers rated the extent to which 21st Century Subjects which are mathematics, languages and sciences should be emphasized in the teacher education curriculum.

Their findings are presented in Table 4.12

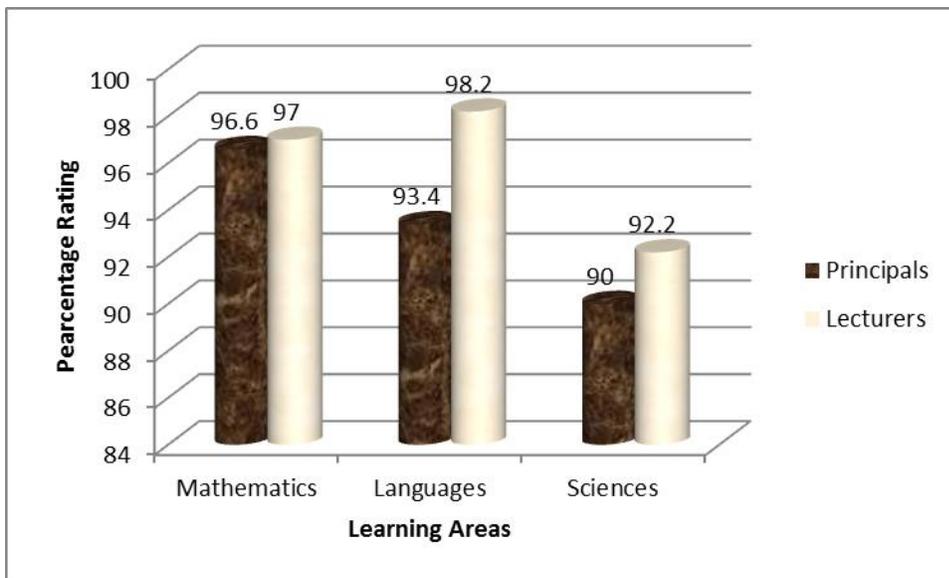


Figure 4.12: Principals and Lecturers Responses on the Extent to Which 21st Century Subjects Should be Emphasized in the Teacher Education Curriculum

The findings in Figure 4.12 show that the highest rated 21st century subject by the lecturers for inclusion into the teacher education curriculum is languages (98.5 %) while the least rated by the lecturers is sciences (92.2%). The highest rated 21st century subject by the principals for inclusion into the teacher education curriculum is mathematics (96.6 %) while the least rated by the principals is sciences (90%). The parents, key informants and students just like the lecturers are all in agreement that languages, mathematics and science be included in teacher education curriculum. However the parents went further to state that foreign languages like French and Chinese be included in their curriculum.

Student: We should be prepared with communication skills...in English and Kiswahili...so as to teach everywhere in the world, also to teach and deliver in any subject at primary level. (CSL-TTCPMAC - MAC)

Parent: They should be taught on skills that are job marketable and helps them develop naturally that is, foreign languages like French, Chinese (P- FGD -GKP-UG)

KI: At teacher education the teachers should be taught pedagogy – mastery of subjects, communication in Arabic language, professional development. (KI-TCD-GAR)

Student: Insha/composition, Poems/ poetry; Comedy and drama should be emphasized. (CS - FGD - TTCPMAC - MAC)

Student: I think there should be more emphasis on core subjects which should be mathematics and environmental studies...KICD should consider that as they do the new curriculum. (CSL -TTCP-MAC -MAC)

4.1.4.8 Extent to which Home Science Subjects Should be Emphasized in the Teacher Education Curriculum

The responses from TTC principals and lecturers on the extent to which home science subjects which are home management and health and nutrition should be emphasized in teacher education curriculum are presented in Figure 4.13.

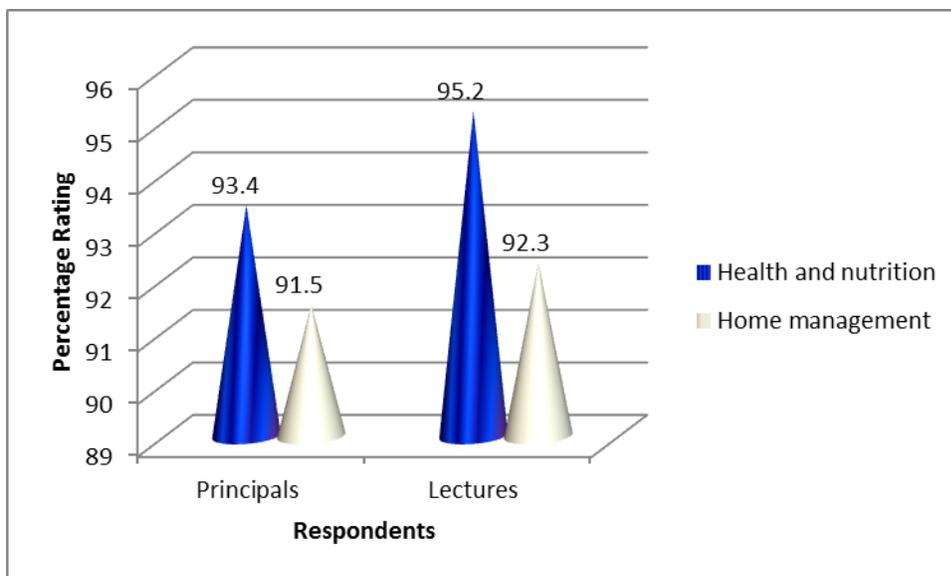


Figure 4.13: TTC Principals and Lecturers Responses on the Extent to Which Home Science Subjects should be Emphasized in Teacher Education Curriculum

The findings in Figure 4.13 shows that health and nutrition is rated higher than home management for emphasis in the teacher education curriculum by both lecturers (95.2%) and principals (93.4%). The lecturers rate the emphasis of home management into the teacher education curriculum at 92.3% while the principals rate it at 91.5%. Similarly the TTC students gave the opinion that home science be taught in teacher education.

Students: Home science should be emphasized. (CS - FGD - TTCPMAC - MAC)

The college students gave the opinion that students in TTC should be empowered to manage their families.

Student: They should be taught on how to manage family as they are so close to marriage age (PL- FGD- KIP-UG)

The key informants suggested teacher education curriculum should include family life and life skills education.

KI: Such things like life skills is not even taught to the teacher for them to deliver so maybe something in the curriculum of teaching something on life skills maybe introduced so that the teacher knows that there is an extra subject to be done in school other than the subject he is coming to teach. (KI – CEC - SAM)

The TTC Student expressed their desire to be taught all subjects that are taught in schools like music

Student: Ok...maybe an example of a TT College; it should be the same as what we are going to teach there. It should not be like here we are being introduced to music...and when I go out there, I cannot teach anywhere. So, they have to ensure that whatever is in this TTC, they are also back there in our primary schools. (CS – FGD –TTCPP - MAA - KAJ)

The TTC student, parents and key informants mentioned other areas of learning that need to be emphasized in for teacher education that are not mentioned by lecturers and principals, these are library science, medicine, engineering, leadership ,economics, psychology, child development , education, stress management, policies, terrorism ,motivational speaking, guiding and counseling, security, terrorism, motivational speaking, mentorship, racism and tribalism,

Student: You will find that maybe someone has a social issue at home and the only Solution what he thinks of is committing suicide, so I think that such issues also when they are incorporated in the curriculum they may also help to relieve such issues (CSL - TTCP – BAR - BAR)

Though some students wanted to be taught specific subjects, there are those who thought more time should be spent on teaching methodology and time for teaching practice to be increased.

Student: Teacher training course should emphasize more on teaching methodology instead of theory. Time for teaching practice should be increased and enough time allowed for preparation and making teaching resources. (CS - FGD - TTCPMAC - MAC)

Student: .Most of the things should be to prepare the learner, e.g. methodology, how you can teach. Somebody (CS -FGD –TTCP –THO-KIA)

ME: Dedicate more time to practical teaching and professional formation of the teacher than theory in the teachers training. Pay greater attention to teaching practice and educational management. (ME-KCCB-RI).

Student: I came to college to be trained on how to teach but not to lean a lot of what we learnt in high school and primary. We should be taught only basic things such as how to teach and just basic skills. We don't need to be taught algebra etc. You need to be taught the methodology but not theoretically to understand how you will be required to teach. (CS - FGD - TTCPKIL - KIL)

A respondent in the memoranda suggested that Teacher education curriculum should include content that can equip teachers with competences of 21 century and professional development and include values.

ME: Training of teachers be overhauled to fit in with the modern demands of education in the 21st century; Concentrate on professional formation of the teacher as opposed to the current practice which dwells on the academic formation of the teacher. ..Re-introduce and emphasize philosophy of education and other educational foundations courses in teachers training colleges. For every

subject there must be a competency, value and attitude to be acquired at the end of every course. This will make it easy to domesticate the skills. **(ME-KCCB-RI)**.

The key informants suggested that life skills education should be included in the teacher training curriculum.

KI: Such things like life skills is not even taught to the teacher for them to deliver so maybe something in the curriculum of teaching something on life skills maybe introduced so that the teacher knows that there is an extra subject to be done in school other than the subject he is coming to teach. **(KI – CEC - SAM)**

Key informant explained that it was important for the preschool teachers to be taught the developmental milestones of their learners in relation to their respective ages.

KI: Teachers should be given a lot of competences especially ECD being made to know the levels of the kids and what they need to know the mental score so that they don't overdo it because of lack of training of ECD teachers the teachers should be able to know the score, age and what the learners can take at their particular ages. They should also not give so little that the child is not challenged. **(KI – PAS - JM - NAI)**

The key informants suggested that education policies e.g. TSC act, the code of conduct and ethics should be taught to the teachers.

KI: So they seem to lack knowledge on TSC Act, the code of conduct and ethics, they also seem not to know much about the Basic Education act and what is required of them, the legal framework that governs education and that governs teaching and learning, so you find they make very glaring mistakes which land them into problems with employer or even with judiciary system. So something should be done to incorporate that if not then the employer might think or we may have to propose an internship or some kind for anyone who wants to be a teacher before they are employed by the commission. **(KI-TCDE-NYE)**

The key informants pointed that teacher education should include child psychology to enable them learn how to handle young learners.

KI: When we talk of teacher education when they go through their two year course they should be able to demonstrate competency in curriculum delivery, they should also be to have team work, spirit work, they should also have good understanding of child psychology because all their life they are going to work with child and understand child well in order to deliver well. **(KI-CBE-KIT)**

A key informant was of opinion that the teaching on sexuality encourages learners to develop rational set of personal values, attitudes and skills for meaningful and respectful relationships. In view of this, the key informant said there are some negative sexual misconduct happening in schools and could be addressed through sexuality education.

KI: With what we are seeing today the media, which was not there many years ago, that one should have a curriculum, I know judges will be opposed but the truth of the matter is we are the parents these are our children we must address issue of sexual education, that's an emerging issue **(KI-KNPA-NAI)**

These findings indicate that TTC students want to learn a wide variety of things that are needed by the job market such as entrepreneurship. They want practical skills rather than academics that would enable them to engage in self-employment rather than become teachers since there are limited job opportunities. They also want to be taught values that will enable them, live a healthy life and life skills. It implies that identified content areas must be included in the curriculum. The findings concur with Article 10 of the Constitution (GoK, 2010) which contains the national values and principles of governance that should be upheld by all Kenyans. It also concurs with Vision 2030 which indicates that Kenya's journey towards widespread prosperity involves building a just and cohesive society that enjoys equitable development in a clean and secure environment. The Sessional paper No. 2 of 2015 further indicates that the curriculum will provide knowledge, skills and values, and competencies to enable learners to move seamlessly from the education system to either further education or to technical/vocational areas.

The findings also concur with vision 2030 that lays importance on Agriculture as a major contributor to the country's GDP and lays emphasis on reading, quantitative reasoning and expository skills (GoK, 2007). The Vision further echoes the importance of mainstreaming science, technology, entrepreneurship and innovation in the school curriculum (Gok, 2007). Similarly the Sessional paper No. 1 of 2005 on Policy Framework for Education, Training and Research, indicates that a breakthrough towards industrialization can only be achieved through application of technology.

The finding that the TTC students desire to learn foreign languages to enable them be competitive globally and be in a position to work in any country, concur with the Sessional paper no. 2 of 2015 which expounds on the need to teach foreign languages in our system of education for global competitiveness. It is also in line with KICD (2013) study on needs assessment on Chinese language which recommended Chinese language to be introduced in the school curriculum.

4.1.5 Pedagogical Approaches in Teacher Education

Teachers need to use varied teaching approaches to enable learners understand easily and enjoy learning. The study sought to find out the pedagogical approaches that can be used in teacher education. The teachers and principal teachers of TTC were requested to indicate in a

questionnaire the extent to which some identified teaching approaches should be used in teacher education, in a three pointer Likert Scale. They were required to indicate their choices by selecting one of the choices given as N for Never, R for and A for Always. The responses they gave are grouped in categories as 21stCentury teaching strategies, practical methods, experiential learning and lecture method and are presented in Figures 4.14 to 4.18

4.1.5.1 The 21st Century Teaching Strategies

The responses from TTC principals and lecturers on the extent to which 21st century teaching strategy should be emphasized in teacher education are presented in Figure 4.14

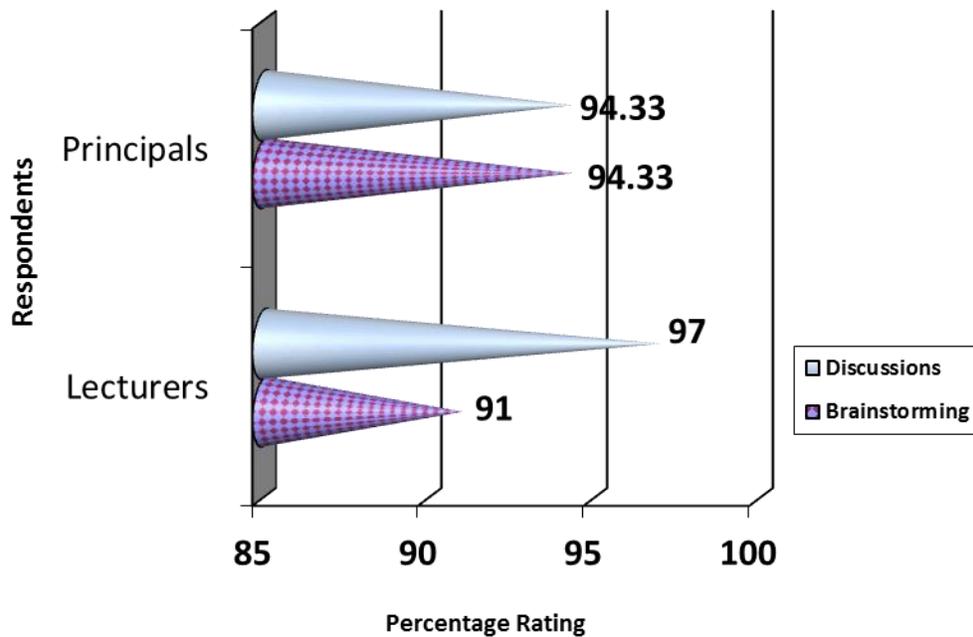


Figure 4.14: Responses of TTC Lecturers and Principals on Emphasis of the 21st Century Teaching Approaches

The findings in Figure 4.14 shows that discussion is rated the highest 21st Century teaching strategy to be used for teacher education at 97 % by lecturers .The principals rate both discussion and brainstorming at 94.33%. This finding was echoed by the key informants and students who mentioned that group discussions should to be utilized in teacher education.

KI:I would give a very broad answer and say anything that liberates the learner...Approaches that are discursive, dialogic, anything that is interactive, where there is actual interaction not you know for most of

our teachers interaction is something like ask a question and the student answers. There is no interaction there... It calls for creativity on the part of the teacher and it calls for inventiveness (KI – CN– NYAM)

Student: we are encouraging our students here as we are being encouraged by our teachers to work together in group work. We are promoting that coming together. In working with this person, I will assist him or her and they will assist me too. (CSL – TTCP - NAR -NAR)

Student: Projects, discussions, spend extra time with slow learners, peer teaching (CS -FGD - TTCP – THO –KIA)

KI: the approach should be they normally call it, it can be participatory within the content, where the teachers know what the students have not learnt from the previous lesson, it has to be more of the children enquiring from the teacher, than the teacher enquiring but how does the child enquire if you don't give them the task, and you just talk (KI-UNESCO-NAI)

4.1.5.2 Practical Methods of Teaching

The responses from TTC principals and lecturers on the extent to which Practical based approaches should be emphasized in teacher education are presented in Figure 4.15.

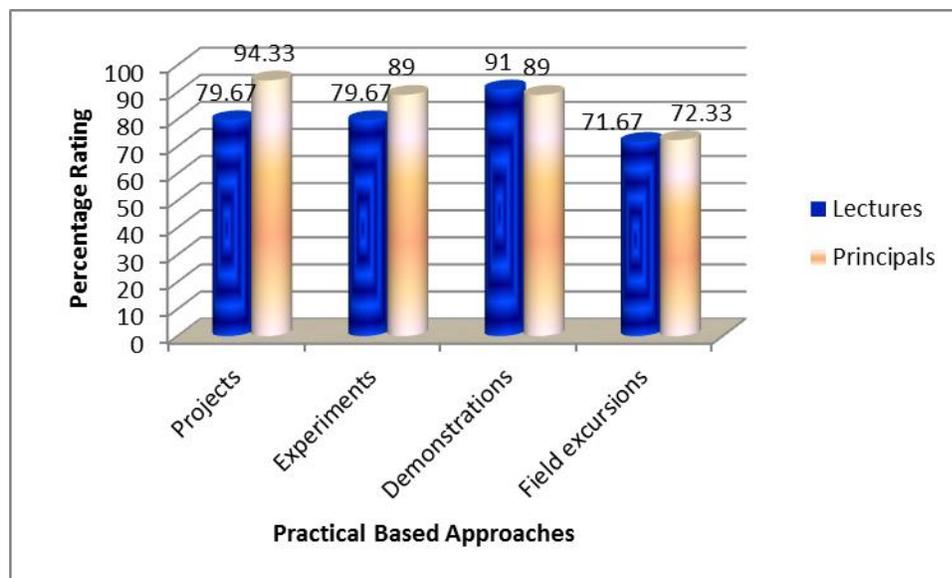


Figure 4.15: Responses by TTC Lecturers and Principals on Practical Based Approaches

The findings in Figure 4.15 shows that the lecturers rate demonstrations as the highest practical method of teaching and learning to be used in teacher education at 91 %, while the principals rate it at 89 %. TTC Principals rate projects as the highest practical method of teaching and learning for teacher education at 94.33% while the lecturers rate it at 79.67%. Field excursions are rated by principals at 72.33% and by the lecturers at 71.67%. Likewise the student, the student leaders and the key informants suggested that practical methods of teaching and learning to be used in teacher education.

Student: TTC should change as a primary teacher you should enquire and have more research or project (CS –FGD- TTCP NAR- NAR)

Student: We can observe how they are performing and their outcomes...and find out how they have come to be successful... you take these children out daily and then you see the outcome as the day ends, if you achieve what you wanted, then you can say that you know (CSL – TTCP – NAR - NAR)

The TTC students said there is need for teacher trainees to be exposed to a lot of practical teaching under supervision during their training.

KI: The mastery of sound pedagogical skills requires that more time be spent by student teachers in schools under a well-organized practicum where both the cooperating teachers in schools and to support the student teachers to learn. This will enhance the pedagogical skills but also the relevance and quality of skills. Teaching approaches at College have to be closely linked to the school world which demands attitudes skills, time management communication skills (KI –CON -NAI)

The TTC students and the key informants in addition added that teacher trainees need to be exposed to a lot of research, ICT, radio, TV programmes and charts.

Student: we need to make teacher training more advanced because it is still so manual, we need more research, use computers and others ways developed so that we don't rely so much on texts. (CS - FGD - TTCPKIL - KIL)

KI: Currently we use text books and the teachers own knowledge of the curriculum, i.e. Which areas to cover and assignments given which is okay, but I think we can introduce modern technology, go for the lap tops, and radio and TV programs, have more charts in the classroom, inspectors, those who are cooperating with education providers can be encouraging (KI KPSA UG)

4.1.5.3 Learners' Activity Based Approaches

The responses of the TTC principals and lecturers on the extent to which learner activity based approaches should be emphasized in teacher education are presented in Figure 4.16.

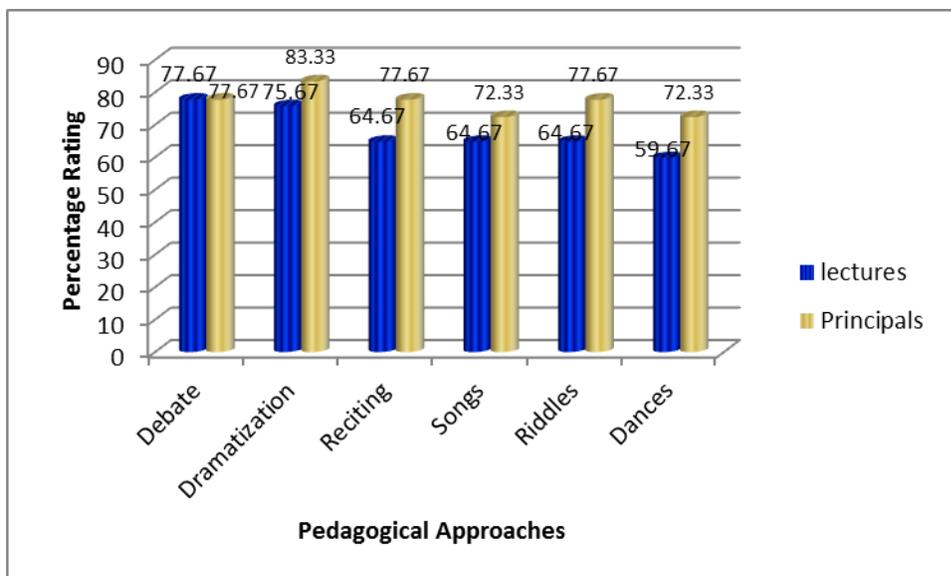


Figure 4.16: Responses of TTC lecturers and Principals on Learners' Activity Based Approaches

According to the findings in Figure 4.16, the TTC lecturers rate debate (77.67%) as the highest learners' activity based strategy to be used in teaching and learning in teacher education, while the principals rate dramatization the highest at 83.33%. Both dance and songs are rated the least learners' activity based strategies to be used for teaching and learning in teacher education at 72.33% by the principals. Likewise the key informants suggested learner activity based approaches of teaching and learning be used in teacher education which are friendly. They added that teachers should be equipped with Montessori methodology of teaching and learning because it is learner centered.

KI: For me make it friendly. For me I would like to take an early something like Montessori but Montessori if offered in two places in Kenya one is a mission school in Kayole and the other one is Montessori school here in Lavington ...Lavington is very expensive it can only happen during working hours even doctors now are learning at night (**KI- CIT- NRB**)

ME: Adopt child-centered approaches and pedagogies which promote critical thinking, reasoning, reflection, creativity and problem solving. Re-introduce and emphasize philosophy of education and other educational foundations courses in teachers training colleges This will make it easy to domesticate the skills. Facilitate and encourage research in teacher education issue (**ME-KCCB-RI**)

4.1.5.4 Experiential Learning Approaches

The responses of the TTC principals and lecturers on the extent to which experiential learning approaches should be emphasized in teacher education are presented in Figure 4.17,

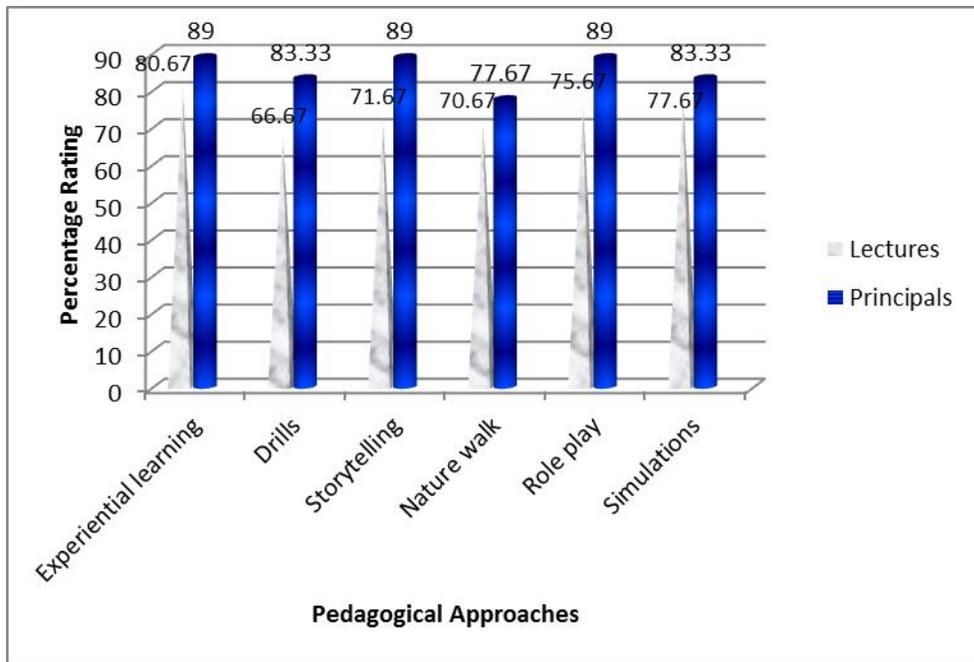


Figure 4.17: Responses of TTC Lecturers and Principals' on Experiential Learning Approaches

From the findings presented in Figure 4.17, the principals rate experiential learning approach (89%), drills (89%) and role play (89%) as the highest experiential learning approach for use in teacher education. The lecturers rate simulations (77.67%) as the highest experiential learning approach for use in teacher education. Nature walk (66.67%) is the least rated experiential learning approach by principals, while drills (75.67%) is the least rated experiential learning approach by TTC lecturers. The students concur with the lecturers and principals that nature walk as a teaching and learning strategy need to be used in teacher education, since they will be able to make observations of what is happening in the field

Student: We can observe how they are performing and their outcomes...and find out how they have come to be successful. For example, that cultural day which is in the university, it did not end well because of those clashes that came. So you can see that maybe this thing is not doing well, and you leave it out. But when you practice it daily, you take these children out daily (CSL – TTCP – NAR - NAR)

The students mentioned that experiential learner strategies should be used in TTC to instill practical skills

Student: Most of the learning offered is in theory where by home science is a practical subject but given in theory only....so you find that when you want to go and implement on the field you find that you don't have that practical part. (CS - FGD - TTCPBAR - BAR)

4.1.5.4 Lecture Method

The responses of the TTC principals and lecturers on the extent to which lecture method of teaching and learning should be emphasized in teacher education are presented in Figure 4.18.

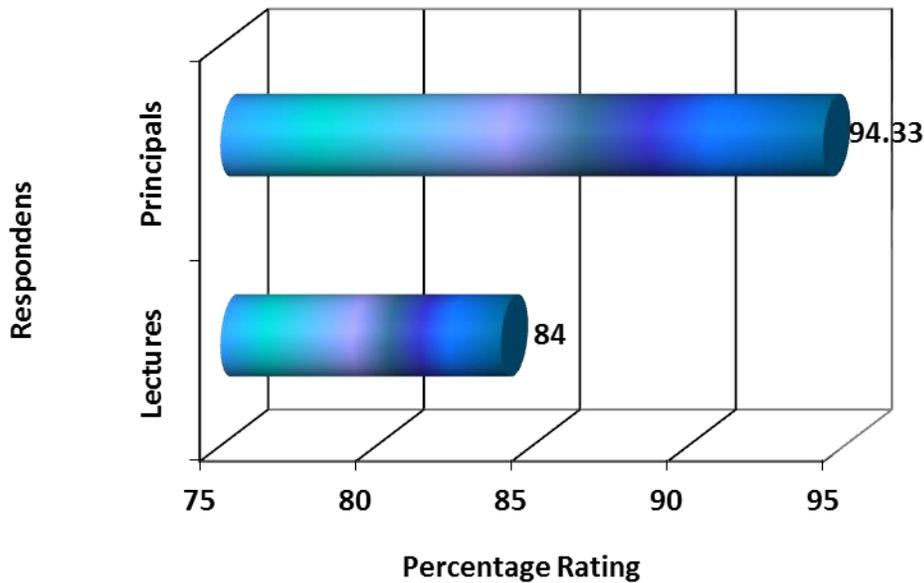


Figure 4.18: Lecture Method

According to the findings in Figure 4.18 the TTC principals rate lecture method of teaching and learning in teacher education at 94.33%, which is higher than the lecturers rating of 84%. These findings are similar to those of the key informants and college students who are in favor of lecture approach, but added that its use must be limited.

KI: Teachers to use as many methodologies in their teaching. Not only lecturing and talking the whole day. They should understand their learners, they have different abilities we teach them to cover the syllabus...we are touching only a few children in a class (**KI- CEE- KIL**)

These findings show that a wide variety of teaching approaches is needed in the teacher training colleges which should be learner centered and promotes critical thinking, reasoning, reflection, creativity and problem solving. This will enable teacher trainees to be exposed to them and learn how to use them, so that they can be able to utilize them while they teach the learners. This will also make the learning interesting and interactive and not teacher centered hence improve understanding and performance. Learners want a friendlier teaching approach.

This implies that the practical approaches need to be included in the curriculum reform which are learner centered. This finding concurs with report on teacher preparation and continuing professional development in Kenya (Bunyi and Wangai, 2013) who found that teacher training used a combination of teaching approaches like lecture and learner centered approaches. The findings are similar with KIE (2013), which indicates that for an effective teaching to take place, a good method should be adopted by a teacher, and support learner centered methods that enhance participation in the learning process and improve individual concentration.

4.1.6 Teacher Education Talents Identification and Nurturing

Teachers need to be aware of the different ways of identifying talents among the students and how they can be nurtured. This study sought to find out the talents that can be developed in students, the ways of identifying and nurturing of talents. The students, parents, key informants and student leaders identified the following talents that TTC students need to have: singing, reading, drawing, creative arts, writing, football, swimming and drumming.

Student: If the child is talented in the drum thing we ensure that he or she performs to their level by establishing some talent academies (CSL- TTP- BAR -BAR)

Student: You know when these pupils are young...that is when they realize their talents...like creative arts and music...so if the music is introduced, at least it would be better...because there are those students who maybe don't have an opportunity to go to church and sing...and realize their talent. But then when they realize they will be doing it... (CS – FGD – TTCPP – MAA - KAJ)

The student suggested that talents could be identified during the teaching of creative arts, physical education and sports.

Student: Talents can be identified when teaching creative arts...during physical education and competitions. (CS - FGD - TTCPMAC - MAC)

Student: The learners have different talents. These talents we can be able to see in a child from a very young age. So the interest of the child maybe is having an interest in maybe football. You can just see that this learner might be interested in this. These outdoor activities should also be encouraged (CSL - TTCP – NAR- NAR)

The students identified the need for them to have lecturers who are good at identifying talents and are also good role models.

Student: I think we should have talented and qualified lecturers who can be role models for us....and can help to identify talents in students. (CSL- TTCPMAC- MAC)

In addition the students and respondents in the memoranda advocate for the use of professionals in identifying talents.

Students: use the professionals we have in the country for example the footballers like Wanyama.... in identifying the talents. (CS - FGD - TTCPCBAR - BAR)

ME: Practitioners must be actively involved in the identification of talents at all levels and in all relevant fields. Physical activities, Community service, spiritual activities, arts and crafts, and creative arts are all areas that include search for talents. (ME-KCCB-RI).

The students and student leaders further indicate that talents in learners could be identified through observation of participation of learners in daily activities at home and in play.

Student: For example, in creative arts...there is this imaginative quality. You will find that there is that person maybe while drawing cows grazing...there is that person who does it very well, such that you see he or she never struggled in any way. You see the person has drawn it clearly. Yes, it is a cow grazing. You also find that there is another person...the teacher can tell that that person is talented (CS – FGD- TTCPP - MAA -KAJ)

Student: The learners have different talents. These talents we can be able to see in a child from a very young age. So the interest of the child maybe is having an interest in maybe football. You can just see that this learner might be interested in this. These outdoor activities should also be encouraged (CSL - TTCPP – NAR- NAR)

4.1.6.1 How to Nurture Talents

This study sought to find out the methods that can be used to nurture talents among the learners. The TTC teachers and principals were requested to indicate the extent to which some specified ways of nurturing talents among the learners could be used in schools in a five-point Likert Scale. They were required to indicate their choices by selecting one of the choices given as N for Not at all, VL for Very little extent, NS for not sure, S for Some extent and G for Great extent. The findings of the principal's and college lecturers are presented in Table 4.1.

Table 4.1: Ways of Nurturing Talents of Learners According to TTC Principals and Lecturers

Ways of Nurturing Talents	Principals (%) N = 6	lecturers (%) N = 32
Games and sports	99.40	95.10
Curriculum enrichment	98.00	94.70
Clubs and societies	98.30	94.30
Cooperative learning/ Competition among schools / academic conferences	94.70	93.70
Ability grouping/ mentorship programs	93.00	93.00
Special schools for G&T	92.90	89.40
Special needs classes	91.00	86.10
Accelerated learning and advanced placement	83.30	86.50
Early admissions to school	78.70	74.50
Average	92.10	89.70

The findings in Table 4.1 shows that all ways of nurturing talents were very highly rated above 70%.The highest rated way of nurturing talents in learners as rated by both principals (99.40%) and lecturers (95.10 %) is games and sports .The least rated strategy for nurturing talents as rated by both principals (78.70%) and lecturers (74.50%) is early admission to schools .Clubs and societies were rated by principals at 98.30 % and by teachers at 94.30. Curriculum enrichment was rated by principals at 98.00 % and by teachers at 94.70%. These findings are similar to those of college students who proposed that talent among learners could be nurtured through games, clubs, competition among schools and curriculum activities.

ME:A broad and diversified curriculum is needed so as to take care of the needs of all children and not only those who perform well academically. As proposed, education should be opened up to recognize and facilitate various types of talents such as technical, entrepreneurship, fine and creative arts, trade and tourism, emerging technologies, agriculture. These different tracks should be all is developed to help the country grow in all the different but important fields. **(K-CCB-RI)**

Student: Be giving enough time, in an institution, that a teacher comes in to have a lesson to in between the time for games, so this teacher does not see the needs to nurture talents, giving equal time to learning areas **(CS -FGD -TTCP -NAR NAR)**

Student: So on the side of talent exposes them, give them materials and then provide a conducive environment for the play and for performing their talents and activities **(CSL- FGD- TTP- BAR- BAR)**

Student: Talents can also be grown through club work...and lecturers can help us to participate in inter college activities. **(CSL –TTCP-MAC -MAC)**

In addition, the learners suggest that talents among learners could be nurtured through government networking with schools, offering rewards to talented students and by setting up specialized talent academies and recreational centers,

Student: If the child is talented in the drum thing we ensure that he or she performs to their level by establishing some talent academies (CSL -TTP BAR -BAR)

Student: Multipurpose recreation centers, if we take music e.g. the various talents can be enhanced with the relevant instruments (CS - FGD – TTCPP –THO – KIA).

Student: May be if you are talented in creative arts, that are the art and craft, I think the government should come up with a process that they make room for those who are talented. They go and participate in that drawing...and after each drawing (competition), the participants are rewarded...maybe in terms of money so that they can boost themselves. (CS FGD –TTCPP – MAA – KAJ)

ME: types of talents such as technical, entrepreneurship, fine and creative arts, trade and tourism, emerging technologies, agriculture. These different tracks should be all is developed to help the country grow in all the different but important fields. Encourage workable and relevant collaborations with the private sector. Explore this alternative for possible co-funding of education... Use of media positively, churches and communities to recognize talents. (KCCB-RI).

Student: Maybe if I am talented in music...they can like...connect me with those people...because I don't know the production whereby maybe if you were like a musician...they can help you now to go and start whatever you were talented in. (CS FGD – TTCPP – MAA – KAJ)

Student : I think the government can come up with a forum in that...ok...they communicate with the colleges and schools...whereby...a person is talented in something like music...there should be that communication whereby...if I am talented in something...the government should have that knowledge that somebody called this...has talents in this and this. So, at least the know how to get that person.(CS – FGD – TTCPP - MAA- KAJ)

The college students further suggested that those who excelled in talents should be used as role models to share their success stories with other students to motivate them on importance of developing their talents

Student: Those who excelled in areas of talents should be used as role models to share their success stories. (CS - FGD - TTCPPMAC - MAC)

The students suggested that there should be provision of swimming pools in their communities for nurturing of talents.

Student: There are also some that have been forgotten like swimming, there are some who swim in rivers and are very good, if they could be facilitated with one swimming pool in one zone it will help to nurture these talents and take us far (CSL- TTP BAR- BAR)

In addition, the college student expressed the need to expose learners to activities where talents can be identified. They should be provided with adequate materials and talented human resource e.g. competing in music festivals and drama outside the school.

Student: So on the side of talent exposes them, give them materials and then provide a conducive environment for the play and for performing their talents and activities (CSL- FGD- TTP BAR- BAR)

Student: You find it is very difficult to nurture other people's talents because the facilities are not there. .. In the field of athletics there is nothing in the field that you can call a field for athletics, hand ball, rugby. So those facilities must be equipped in order to nurture people's talent in college (CS- FGD- TTCMIG- MIG)

Student: Institutions like Kenya Polytechnic they have shown where they host celebrities to nurture them but in a TTC and here I've never seen that. So you can find people are here and they are musicians but the way of getting that talent out of them is very difficult because things like shows are not conducted here. ...you find something like entertainment. During the week you have been busy but during the weekend you need something to refresh your mind you need to entertain yourself, listen to music but you find that those equipment are not available like the systems (CS- FGD -TTCMIG- MIG)

Student: This can be done by providing equipment to assist in developing talents such as piano, recording room and other relevant materials (CS - FGD - TTCMIG - MAC)

Student: They can provide game facilities ...participation in games, music festival. We should have talented and qualified lecturers who can and grow talent in students. Talents can also be grown through club work....and lecturers can help us to participate in inter college activities. (CSL- TTCMIG -MAC)

Students: Avail resources, organize talent shows, and encourage participation and provide a variety of equipment and learner is allowed to access the equipment. . (CS - FGD - TTCMIG - MAC)

Further the students suggested that teachers need to be creative and improvise materials that can be used for talent nurturing rather than buying the materials.

Student: The teachers should also be creative and use improvised materials to bring out the talents in children. We should then be given the materials to improvise for example balls (CS - FGD - TTCMIG - BAR)

The findings indicate that, there is a wide variety of talents among the students that need to be nurtured, which may benefit the learners after completion of education and if well developed can help them earn a living from them. Some learners may not perform well in academic work but may be talented. It implies there is need to have talents identification and nurturing included in teacher education curriculum in order to equip the teachers with relevant skills on how to identify and nurture learners' talents. The findings concur with Kenya Vision 2030 that calls for curriculum that develop learners' entrepreneurial skills, competencies and talents, the vision further adds that the government will identify and nurture talents, especially among the youth and support commercialization of talents in order to raise personal incomes and widen employment opportunities and provide the necessary infrastructure at national and county levels to nurture talents in sports and entertainment. Additionally, Sessional paper NO 2 of 2015 expounds on the need to develop and nurture talents for global competitiveness, while the

Taskforce Report of 2010 mentions identification and advancement of talents among core curriculum competencies.

The findings are in line with the curriculum policy (2015) which indicates that since the curriculum as it is does not give linkage of talents to development of careers, further education or training, there is need to address the aspects of identifying, nurturing and developing talents among learners .The findings are similar with the Ministry of Education Science and Technology strategic plan 2013-2017 that advocates for Sports and recreation facilities that provide the youth with an opportunity to socialize and spend their time productively, strengthening and developing their character and talents .

4.1.7 Teacher Education Assessment

Assessment is a means of measuring learning outcomes. In education context assessment is the process of ascertaining whether students have attained curricula goals. This study sought to find out the mode of assessment that should be used in teacher education. The teachers and principals were requested to indicate the extent to which some specified assessment modes could be used in Teacher education in a five-point Likert Scale. They were required to indicate their choices by selecting one of the choices given as N for Not at all, VL for Very little extent, NS for not sure, S for Some extent and G for Great extent. The responses were clustered into formative and summative modes of assessment. Their responses are presented in Figure 4.19.

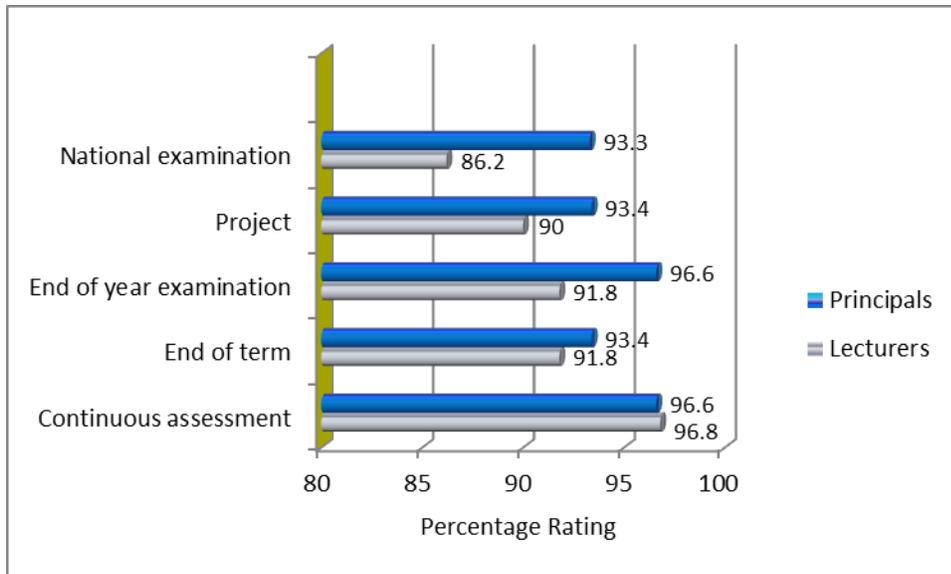


Figure 4.19: Responses of Lecturers and Principals on Assessment Modes at Teacher Education level

According to the findings in Figure 19 the TTC lecturers rate continuous assessment as the highest mode of assessment at 96.8%, while the principals rated it at 96.6%. End of year mode of assessment was rated by principals at 96.6% and by the lecturers at 91.8%. National examination was the least rated mode of assessment by lecturers (84.2 %) while the principals rated it at 93.3%.

These findings are similar to those of college student who mentioned that assessment at teacher training college should include continuous assessment, projects, end of year examination and national assessment. They added that the assessment should include oral questions. The students further indicated that the continuous assessment tests at PTE are sufficient on their own and suggested every subject to be examined practically.

Student :Currently we have the PTE and CATS.I don't think that the current methods are bad, but maybe we need to have practical for these subjects because ...all subjects even agriculture and social studies can have practical...like map work in social studies. (CS -FGD - TTCP-MAC - MAC)

In addition the teacher trainees added that assessment in TTC should have more research work

Student: The mode of testing or assessment in TTC should change as a primary teacher you should enquire and have more research (CS- FGD- TTCP -NAR- NAR)

The TTC students further suggested that teacher education national exam be conducted after each academic year like that of the universities rather than after their three years of training.

Student: My opinion about the KNEC exam it is better for us to do the exam after the end of very year than to wait for three years like in universities (CS –FGD- TTCP- KAG- NYE).

Student: The mode of testing or assessment in TTC, should change ... for example after every first year you are being assessed for that year and go to second year whatever you learnt in first year you will not be recognize what you learnt, it should be placed for first year and second year, like a learner ask you a question pertaining the things you did first year you will remember faster (CS- FGD -TTCP NAR- NAR),

Student: The mode of assessment should be like university, topic after topic. We have 12 subjects, where they are examined at end of the course; it should be done after every topic, instead of piling all at the same time. Like first year we handle 12 subjects and are assessed at the end of the term. First year we handle 12 subjects, and those 12 subjects are examined at the end of term (CS -FGD –TTCP- NAR -NAR)

Student: End of year, end of course, combined assessments. Like university each year assessment is done then an aggregate done (CS -FGD -TTCP – THO – KIA).

Student: This is a tertiary institution. We should be tested immediately after every topic. The tests cover many topics. We need to be tested at the end of topic, and if you fail you resist immediately rather than have a referral at end of two years. I think we should do away with final PTE exam teachers can get the average of tests done and get a final grade. Thus CAT's can be used for grading students. (CS - FGD – TTCP-KIL)

The students gave the opinion that the quality assurance officers should not assess them.

Student: I get so irritated that I'm been assessed here and when you go to these other schools you rarely find these, why do they do it at the college level because I've taught us a trained teacher and you will find a quality assurance officer asking one question or he doesn't even ask and goes (CSL –TTCP- BAR- BAR).

The students suggested that incase of failing in a subject a candidate should be graded but not required to resit for the subject.

Students: On exams – I suggest referral should be stopped because sometimes you pass all subjects and only get a referral in one subject. I think this should be added to and one is graded instead of one having to come back to re-sit for exams. (CS - FGD - TTCPKIL - KIL)

The students are of the opinion that PI course be scraped since it offers only a certificate.

Student: The P1 course is cumbersome for example our friends in Tanzania have done away with the certificate. Kenya can do something to this effect because we train a lot and use a lot of time only to end up with a certificate that takes time to get employment (SL – TTCP –MIR –MIR)

The students and the key informants advocate for different ways of measuring learner's achievement other than paper exams in teacher education. They suggested that assessment in TTC's should mainly be in practical teaching.

Student: According to me, student teachers should be assessed in Practical teaching because this is what matters most in their course... theory assessment through written test, oral test and projects continuously during the learning process. (CS –FGD – TTCPMAC - MAC)

ME: Assessment should be based not only on written work but on practical (ME-TKS-IS).

Student: The government should look for different ways to examine so as to reduce the maddening focus

on exams as a way of measuring a person's capabilities. (CS – FGD –TTCPMAC - MAC)

The students further added that there is need for practical exams for all subjects including agriculture and social studies.

Student : We need to have practical for these subjects becauseall subjects even agriculture and social studies can have practical...like map work in social studies. (CS –FGD – TTCPMAC - MAC)

The students further added that ICT should be examined by KNEC at teacher education level.

Student: For the TTCs, I think that subjects like ICT to me, I think it should be examined at the KNEC level other than just being handled internally (CSL TTCP BAR BAR).

These findings implies that assessment methods at teacher education need to be changed to ensure that the learners do not have a heavy load to cover in the exams at the end of their two year training. Assessment should not only test the cognitive domain but also expose the learners to a lot of practical work. Assessment should not only be based on paper and pen because it is too narrow but be based on practical work. These findings concur with Heneman and Milanowski (2003) who argued that teacher evaluation system based on teacher competency framework is more valid. The desire for frequent assessment is in line with Kellagan and Greaney (2001) who advocated for regular, reliable and timely assessment as key to improving learning achievement and should therefore be a fundamental component of an effective teaching and learning process.

The findings are also in line with a study carried out by UNESCO which established that in formative assessment the teacher is able to understand how students are leaning, to identify problems the students may face in the learning process and to use feedback to ensure that all have the opportunity to learn (UNESC, IBE No. 15 – 2015)

The need to do away with paper based exams concurs with Grubb and Cox (2005) in their study who concluded that traditional paper based assessment teaching and learning practices are not relevant to the needs of the learners. The need to have practical exams is similar to what happens in Rwanda, assessment focuses both on knowledge and understanding, aptitude and practical tests, attitudes and values (behavior) and generic competencies guided by specific indicators (Republic of Rwanda, 2015). Similarly the Kenya vision 2030 second medium term plan (2013) advocates for promotion of internship and industrial attachment programmes for students from all training institutions in order to acquire practical skills relevant to the needs of the society

before leaving the learning institution. However it doesn't mention how it will be assessed. The idea of doing away with the national exams concurs with what is done in South Korea where there are no National assessments (KICE, 2008).

4.1.8 Teacher Education Teaching and Learning Resources

Resource refers to any inputs that are used in the learning environment to effectively achieve the desired outcomes. The successful implementation of a curriculum requires the use of a variety of resources that enable the student to learn through a rich and varied selection of instructional materials. Resources enhance learning, make it enjoyable and enhance understanding (Clay, 2016). This study sought to find out the resources that are needed in Teacher education institutions. An observation of resources available was conducted in each teacher education institutions visited. Table 4.2 show the availability of the resources observed.

Table 4.2: Availability of TTC Teaching and Learning Resource

Teaching and Learning Resource	Available (%)	Not Available (%)
Art room	7.9	92.1
Music room	9.2	90.8
Technical subject rooms	13.5	86.5
Home science laboratory	15.2	84.8
Biology/chemistry / physics laboratory	37	63
Libraries	53.8	46.2
Models	51.8	48.2
Photographs/ photos	55.4	44.6
Charts	77.9	22.1
Sports equipment	78.2	21.8
Agriculture farm	83.2	16.8
Syllabus	91.1	8.9
Text books	92.7	7.3
Classrooms	93.1	6.9

Table 4.2 shows that majority of the TTC institutions have classrooms (93.1%), textbooks (92.7%) and syllabus (91.1%). However art rooms (92.1%), music rooms (90.8%), technical subjects rooms (86.5%), home science rooms (84.8%) and biology, chemistry and physics laboratories (63%) are unavailable in the sampled TTC institutions.

The TTC students were in agreement with the lecturers and principals that resources like laboratories, libraries, art materials and text books were unavailable in their institution, while those resources available were inadequate.

Student: Here we are doing creative arts...and we have art separate from craft. For example, under craft, we have those practical...the resources that we need to see the drawings...but we have never seen such an instrument or such a tool. So it would be better if they can support the colleges and the education system so that they purchase those tools and equipment so that when it's time for that subject, and the teacher is coming. Today we are going to learn about these tools and equipment and how they are used...At least I am able to see it, and I am able to touch and use it, rather than I am just shown theoretically. (CS- FGD – TTCPP - MAA- KAJ)

Student: We have gone to teaching practices where you will find 60 to 70 pupils in a class; I think the government should do something to expand these classes so that we can have at least pupils which we can handle, at least 35 because 70 is like teaching a double class (CSL – TTCPP- BAR - BAR)

Student :The classroom, the accommodation sites, food and so many other things require us to have more equipment like educational materials because it is the government aids the one that set the exam and regulates the curriculum so they know what we need (SL-TTCP - MIG – MGR)

Student: Schools should be well equipped, and funded... if we have better facilities, laboratories, and libraries. (CS – FGD – TTCPP-SHA - SHA)

The students indicated that there is inadequate qualified teaching staff in TTC.

Student: For a certain subject, there should be qualified teacher...for example I'm going back to P.E...you find that some teachers who teach P.E...they don't have that knowledge of P.E. That is why you find that a teacher is unable to take students out for practicals...you will just teach theoretically. So, the teachers should be well trained. (CS – FGD – TTCPP - MAA- KAJ)

Student: In Kenya nowadays, education has become a business. Many people are not concerned with imparting knowledge on the pupils. You find they just construct a building and start a school and take two three teachers from nowhere...and they start teaching. They are not so much concerned with what the child is going to gain, other than business. So, the government should ensure at least they inspect every school and make sure that the teachers who are there...they are experienced, they are learned; and also the schools are structured...and have all the resources (CS – FGD- TTCPP - MAA - KAJ)

Students: Teaching staff are less. You can get that two classes are placed together or you can find all second year classes and we are ten classes are placed together to be taught by one teacher (CS- FGD – TTCPP- MIG -MIG)

The TTC students said they required the following resources for teacher education curriculum implementation, electricity, computers, musical instruments, smart boards and play grounds

Student: Ok in the classrooms the smart boards should be placed there to enhance reading. When a teacher comes in he doesn't use the chalk he uses the smart boards to write. When he uses the smart board I will be more attentive than when he uses the chalk. (CS-FGD - TTCPP - MIG – MGR)

Student: So when we talk about laptops, you find that they are very necessary. It is important that we put our learners into the current situation or the market value of every place. For example as teachers on TP we have to draw on charts. Maybe you want to draw an elephant, you are not an expert on drawing, and you

just have to draw a funny elephant so you see these laptops will be very effective, you can download an animal as a real thing (CSL – TTCP - BAR - BAR).

4.1.8.1 Support

This study sought to find out the support TTCs need for implementation of competency based teacher education curriculum. The TTC students and student leaders suggested that the government could offer support in provision of guidance and counseling teachers, motivational speakers, computers, library books, playgrounds, equipment for sports, laboratories, braille machines, sign language interpreters, teaching and learning resources, funds and classes

Student: The issue of congestion in classes, for example not only in Narok TTC, but currently we are very congested, in class 85 – 96 pupils in one class, the government should provide extra resources (CS -FGD -TTCP -NAR NAR).

Student: Ok...basically we need more text books and some facilities like the library need to be bigger to accommodate number of students .the books are also old versions and we need new versions.....equip the students with visual impairment with better Braille machines ...they also need enough interpreters. (CSL TTCP-MAC- MAC)

Student: In terms of schools, let us say colleges, like this Narok Teachers College. You find that there is a big challenge in terms of resources in the school. So you find that the places students are living in are very congested. Just like what I said earlier, you find that the government is giving the college some money in bits. So you find that that little money cannot be able to build a dormitory. So if they can just be given that money once, they can do something constructive (CS – FGD – TTCP- MAA- KAJ)

Student: KICD should provide materials that will help teachers to explain some of these difficult areas like HIV and Aids so that they can see the seriousness of the disease. (CS - FGD – TTCP-BAR - BAR)

Students suggested that means of communication to their institutions needed to be improved

Students: Infrastructure and also communication, you find most of the institution the site communication is not good, the roads are not that favorable and the interior of an institution will not favor Someone to go to that institution and communication also from different institution should be improved. The level of the communication from one institution to another will improve the learning (CS- FGD–TTCP-NAR -NAR)

The students mentioned that they should be considered for loans by HELB

Student: Yes. Even these scholarships that are given, you find that they are given to the best students who are going to university. Nobody has said that they are giving scholarships for people who are going to polytechnics. Even when you ask in colleges, “What do you want to be,” nobody says they want to become a teacher. What is wrong with teaching? Is it not something that can help/ they should be informed (CSL – TTCP – NAR - NAR)

Student: We are students...our country should give bursaries to students in TTC and loans by HELB just like university students. (CSL- TTCPMAC -MAC)

Student: .Give scholarship for those who have passed to go and learn, they choose candidates in private and public like three, three in private and government institutions (CS –TTCP- NAR -NAR)

The findings show that TTC institutions have inadequate teaching and learning resources. This means that the students are denied the benefits they should get from the resources hence not adequately exposed to practical skills. This finding agrees with an observation made by Deolihar (1997) where he points out that inadequacy of school equipment is one of the most important factors adversely affecting the quality of education in Kenya. The findings agree with McAliney (2009) who indicated that for effective teaching and learning, quality human and physical resources are required.

The findings are in line with a study by Bauer, Brust and Hubbert (2002) which found out that investment in physical resources contribute directly to academic learning environment. He indicated that the other resources that may influence learning environment are well stocked libraries, well supplied and maintained classrooms with laboratories including computer labs and well maintained grounds.

4.1.9 Teacher Education Contemporary and Crosscutting Issues

Cross-cutting issues are commonly defined as topics which, by their very nature, have a strong impact on all operations in a given field and, therefore, must receive special attention hence their inclusion in the intended new curriculum. This study sought to find out the crosscutting issues that affect the society that need to be included in teacher education curriculum. The lecturers and principals were requested to indicate the extent to which some specified crosscutting issues could be covered in teacher education curriculum in a five-point Likert Scale. They were required to indicate their choices by selecting one of the choices given as N for Not at all, VL for Very little extent, NS for Not sure, S for Some extent and G for Great extent .The responses are presented in Figure 4.20.

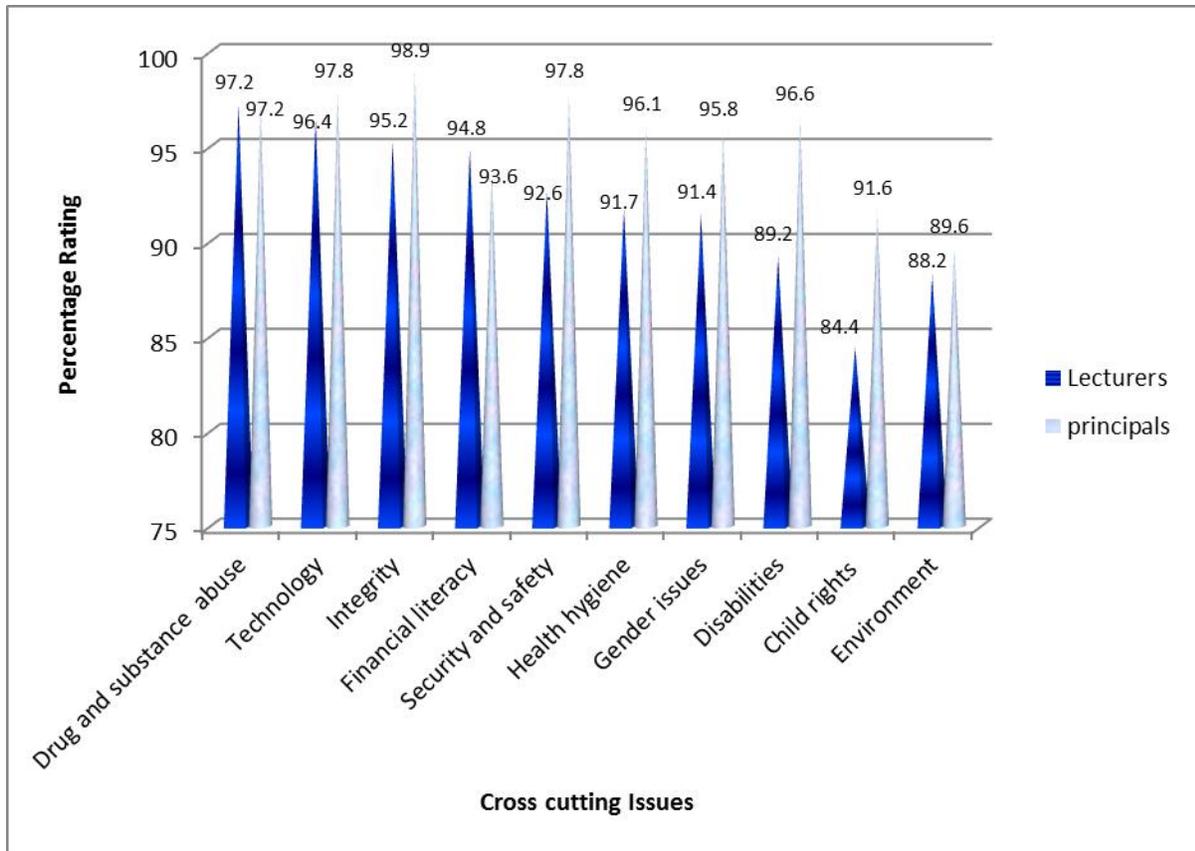


Figure 4.20: Rating of Emphasis of Crosscutting Issues in Teacher Education Curriculum by TTC Principals’ and Lecturers’

The findings in Figure 4.20 shows that integrity (98.9%) is the highest rated crosscutting issue by the TTC principals for inclusion in teacher education curriculum, while the lecturers rate drug and substance abuse (97.2%) as the highest crosscutting issue to be addressed in teacher education curriculum .The least rated crosscutting issue by the principals is environmental (89.60%) while child rights (84.4%) is the least rated crosscutting issue by the lecturers. Security and safety is rated by principals at 97.8% and by lecturers at 92.6%.

The students, key informants and parents similarly mentioned the same crosscutting issues such as drug and substance abuse, security, gender, integrity, technology and environmental issues that are mentioned by the lecturers and principals that should be included in teacher education curriculum. The students also added sexuality education and guidance and counseling as key crosscutting issues for inclusion in teacher education.

Student: when I first came to Bumbe I don’t know what to do. Later I chose food and beverage ... I had that feeling that this course is for ladies. So something was telling me to quit but I went on and I made it.

That believe was there when I went to attachment I realized it's not only for ladies. You just have to change your attitude (SL –TTIP- BUM- BUS)

Student: Corruption, HIV and AIDS and it be as open as possible. Sexuality education and adolescence be given ... Safety, terrorism problems, substance and drug abuse, relationships (CS - FGD –TTCP –THO –KIA)

Student: I think the person should be discouraged on taking drugs. The institution should take time like weekends to have a guidance and counseling session on drugs and other issues. And they bring many people from outside to talk about it (CS – FGD – ISTP - NIST - NYA).

Student: Environmentally, it is as results of noise pollution due to industries being built near schools which becomes a huge distracter (CSL - TTIP - WOT - MAK).

Student: Environmental issues like air pollution e.g. smoke, noise, dumping, and cutting down of trees (CSL-TTIP-UKU-KWA)

KI: When you listen to people talk is like corruption has become like our culture and when you talk about culture, culture is like something that is practiced by all people in the community you are talking about. So corruption in our case has become a way of life ok, and then you know even if it's a way of life you know what it means so I think whether invaded in another curriculum it is an area which needs to be tackled by any means. (KI-REG-LAU)

These findings indicate that there are very many crosscutting issues that affect the TTC students in school which may affect their academic performance negatively. Therefore these crosscutting issues need to be included in the teacher education curriculum to make the teachers aware of how to handle them so that they can enlighten their learners on how to deal with them. The issues of security are a thorn in the flesh worldwide especially with the advent of radicalization among the youth. Technology is the way of the future in the global village but has brought about pornography and other dangers. Drug and substance abuse is a very big issue worldwide and the youth need to be informed about the vice to make informed decisions. Corruption is a cancer in the Kenyan society even in the education system including assessment by KNEC. The government has recognized HIV as a disaster which is reducing the youthful and productive population. The youth need to be informed about the dangers of the vices.

These crosscutting issues mentioned are similar with those in the report on assessment of mainstreaming of emerging issues in primary and secondary schools curriculum (KICD 2014) and the Sessional paper No 2 of 2015, which emphasizes that learners have issues ranging from sexuality, drug and substance abuse and media influence in these times of technological advancement, and political and social scenarios that influence their lives (Republic of Kenya, 2015).

This also concurs with the Constitution of Kenya 2010 which covers crosscutting issues in chapters 2 and 6 that deal with principles of governance, leadership and integrity; chapter 4 deals with bills of rights which include child rights; part 2 deals with environment; part 3 deals with specific application of rights like children rights; chapter 5 part 2 deals with environment and natural resources; chapter 12 deals with national security (GoK 2010). In addition the sessional paper No 1 of 2012 on Kenya vision 2030 mentions the overall ambition for security under Vision 2030 is a society free from danger and fear. Further the Kenya vision 2030 indicates that culture will be promoted in order to promote employment. Health and environment have been given a lot of weighting in the social pillar of the Kenya Vision 2030.

The issues of gender are included in the new Constitution of Kenya 2010 and vision 2030. Similarly the findings concur with MoEST strategic plan 2013-2017 (MoE 2013) which indicates the emerging issues that affect education include HIV and AIDS; poverty; hunger; conflict and emergencies, guidance and counseling and gender.

4.2 TVET Needs

4.2.1 Introduction to TVET Needs

This section presents the findings and discussions of TVET needs. The chapter is divided into different themes which include: general TVET needs, competencies, content/learning areas, talent identification and nurturing, pedagogical approaches, teaching and learning resources, assessment and crosscutting issues.

4.2.2 General TVET Needs

According to Eidlin (1995), the term need is defined as the gap between a current and a desired state of being. He further argues that needs can be objective (measured) or subjective (perceived) and physical or psychological. Societal considerations are important in guiding the way content of curricula should be designed to inspire and enrich people's lives with the knowledge, skills and attitudes most helpful to them and their country (KIE, 2002).

This study sought to find out the general needs of TVET institutions. Responses were sought from TVET lecturers and principals through questioners. Information from the learners and parents was sought through focused group discussion. The student leaders and key informants were interviewed. The TVET lecturers and principals were asked in a questionnaire to indicate

the extent to which some identified societal needs should be emphasized in TVET curriculum using a five-pointer Likert Scale. They were required to indicate their choices by selecting one of the choices given as N for Not at all, VL for Very little extent, NS for not sure, S for Some extent and G for Great extent. The responses were weighted out of 5 and percentage mean ratings derived. The responses of the TVET lecturers and principals are presented in Figure 4.21.

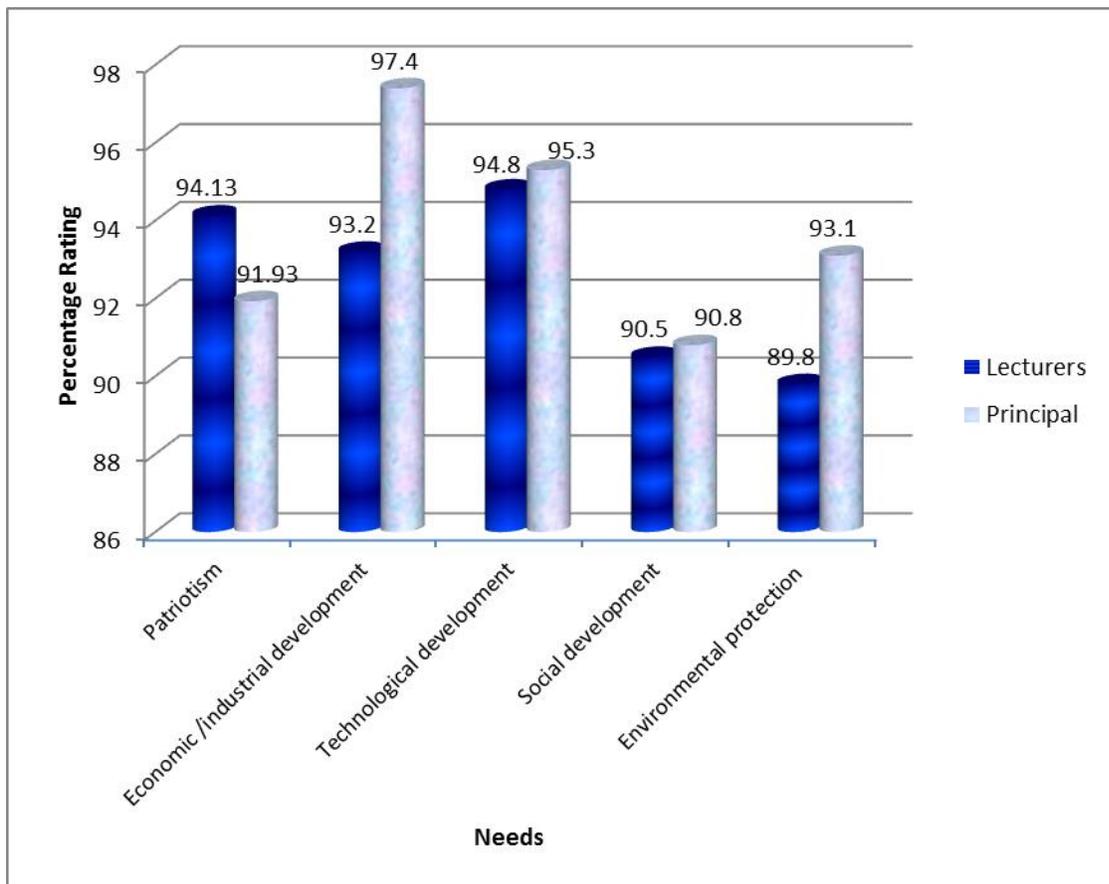


Figure 4.21: Responses of TVET Lecturers and Principals on Extent of Emphasis of Societal Needs in Curriculum

The findings in Figure 4.21 indicates that lecturers in TVET institutions rate technological development need at 94.8% followed by patriotism as the highest need at 94.13%. These societal needs were followed closely by economic and industrial development need at 93.20%. The TVET principals rate economic and industrial development (97.40%) as the highest need which is followed by technological development at 95.3%. The least rated need is social development which is rated at 90.8% by the principals and at 90.5% by the lecturers. The students, key informants and parents are in agreement with the lecturers and principals that there are social

development needs and economic and industrial needs that should be addressed in TVET curriculum .The students proposed that the TVET curriculum needs to highlight issues of teacher absenteeism, drunkenness, misappropriation of school funds as it hampers effective curriculum implementation.

Student: And still, I don't think, I don't know whether you can come up with aaah...nini of coming... of supervising some teachers. You find that teachers they don't come for some lessons. Simply because they have them after and months they will go for their salaries. So they don't mind if the syllabus is covered or not. Simply because, they will tell you, okay, I did my education, so struggle for yours. Or some teachers come to class while drunk. Simply, what will that teacher deliver to them? (CS - FGD - TTIP - WOT - MAK)

Student: Another thing the government has to inspect is concerning the money it donates for the buying of learning equipment and books. You see the government can donate 25million to cater for the books and stationery materials in short. And you find the school fails to purchase such items needed in academic and then the students ends up lacking those essentials to support academic (CS - FGD - TTIP - WOT - MAK).

The key informants, lecturers and principals are in agreement that economic and industrial development needs to be emphasized in TVET curriculum which can be promoted through entrepreneurial skill development for self-employment among the students.

KI: At technical level they need to be self-reliant by the time they complete their courses they need to be self-reliance or employability ...being able deliver and give, they should also have positive attitudes towards work they should also have entrepreneur skills because most of them should not expect to be employed but walk out and be entrepreneur whereby they can earn and employ others. Again one other thing is innovation and creativity. (KI-CBE-KIT)

The key informants suggest the need to have TVET lecturers undergo a training course on teaching to enable them to effectively implement the TVET curriculum.

KI: We have a number of those trainers in the TVET institutions who did bachelor in science in mechanical engineering, technical engineering and are not basically teachers so we want to come up with curriculum whereby those who have not done education should go either back or be retrained in teaching because there are number of them who have higher diploma who don't have basics in teaching (KI- DDE -MUR)

The Key informants added that TVET courses be offered through different modes such as distance learning ,weekend and evening classes so as to give room to the students to work or attend to their families.

KI: students should not sit in classrooms particularly in TIVET institutions where some of them have other responsibilities ... the programs can be flexible so that we can have part time learning and distance learning. Apprenticeship can be very helpful since when it is hands on it becomes more interesting. Attaching students to the industry will be very helpful. (KI-CEE-KWA)

A student's leader mentioned the need for constant monitoring and evaluation of the TVET institutions by the ministry of education and KICD to avert the challenges in their learning institutions.

SL: There should be genuine monitoring and evaluation from the ministry of education and KICD basing on academics. Because, you can find there are so many students, we are suffering down here but when we have that evaluation from the ministry of education you can find that they will report that education is taking place correctly and yet we are suffering down here (**SL- TTI- BUM -BUS**).

A Key informant suggested the need for TVET institution to be provided with adequate facilities like workshops and laboratories for effective teaching of practical work.

KI: We need to have adequate workshops so we will be able to use workshops and laboratories because in TVET we are sure you want to teach practically apart from theory (**KI -DDE- MUR**)

The key informant expressed the need for partnerships between the TVET institutions and the industries where the student in these institutions can take up apprenticeship. This would make the students familiar with the work skills and enable the TVET institutions produce graduates who are ready for the job market.

KI: there should be a lot of partnerships between the TVETs and the field of work, these organizations, and the attachments, there should be a lot of collaboration. Because, if somebody is exposed to an organization, they develop interest and it adds value... I would suggest there be a lot of collaboration, between the place of work and those TVET institutions. (**KI-TCD-GAR**)

A key informant further emphasized the need for core teaching with great link to the industries where the teacher and the learner have to spend more time in the industry in order to acquire desired competencies.

KI: The pedagogical skills requires will be needed both in the private sector, will be core training and academia in terms of vocation institutions and it requires the same sort of pipeline where lecturers and trainers have access to industry to train the trainer modules which enhance the pedagogical skills but also the relevance and quality of skills. And they have to be closely linked to the industrial world which demands attitudes, attitudinal skills, time skills, communication skills etc. And so the link has to be great in order to show that we are efficiently able to transform both entities (**KI -CON -NAI**)

A key informant indicated that TVET curriculum should be made post-secondary not post primary because form four leavers are mature enough to engage in TVET activities.

KI: TVET, to be post-secondary not post primary as much as possible, because students passed form 4, and of course we have so many of them, are ready to engage in they are adult enough to engage in TVET (**KI-SGKN NAI**)

The TVET students suggested that they should not be charged anything for re-sitting the KNEC exams when they fail the examinations to encourage more students to pursue the courses.

Student: We should not pay for that exam those we have failed and we had paid for them at the first time. So it becomes hard and some drop out. It's as if they are looking for a way to push you out (CS – FGD – ISTP- NIST - NYA).

These findings indicate that the need for technological development, patriotism, social development, entrepreneurship, economic and industrial development came out very strongly. The high ratings given to technological development by the principals of TVET and lecturers shows that the two groups of respondents are in agreement on the importance of technology in the modern world and hence the need to include it in the TVET curriculum as a key to the development of the country . This is in line with Kenya Vision 2030 which dictates that by 2012 the country should mainstream Science, Technology and Innovation (STI) into the curriculum (Vok, 2007).Furthermore; policy documents have articulated the direction the country needs to take in order to propel its development agenda. According to the recommendations made in the Sessional paper No. 1 of 2005 on a Policy Framework for Education, Training and Research, a breakthrough towards industrialization can only be achieved through application of technology.

4.2.3 TVET Competencies

According to Weddel (2006), competences refer to a combination of theoretical and practical knowledge, cognitive skills, values and behavior used to improve performance; or a description of skills, knowledge, attitudes and behaviors required for effective performance of a real-world task or activity. TVET students are expected to acquire some competences by the time they leave the training institution. This study sought to find out the competences that TVET students should acquire. The TVET lecturers and principals were asked to indicate the extent to which to some specified competences should be emphasized in TVET curriculum. They were required to indicate their choices by selecting one of the choices given as N for Not at all, VL for Very little extent, NS for not sure, S for Some extent and G for Great extent. The responses they gave were clustered into four 4Cs of the 21st century skills which are communication, collaboration, critical thinking and creativity.

4.2.3.1 Communication Competences

The responses from the TVET lecturers and principals on the extent to which competencies classified under communication should be emphasized in TVET curriculum are presented in Figure 4.22

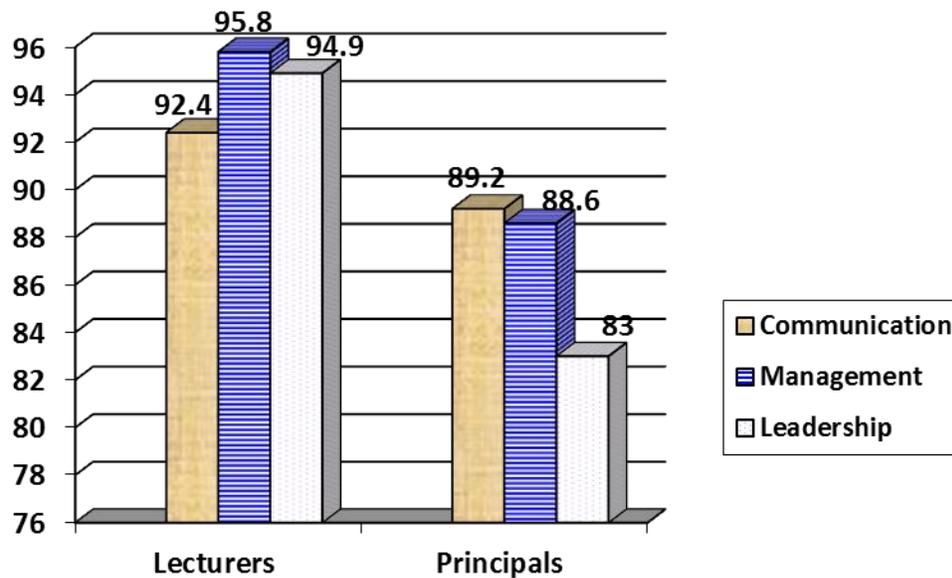


Figure 4.22: Responses of TVET Lecturers and Principals on the Extent to Which Communication, Management and Leadership Competencies Should be Emphasized in the Curriculum

The findings in Figure 4.22 indicate that, all the three competencies (communication, management and leadership) are rated very highly for inclusion in TVET curriculum with ratings of over 80% by both TVET principals and lecturers. The lecturers rate management competences the highest at 95.8% while the principals rate communication competence the highest at 89.2%. Leadership competence is rated at 94,9% by the lecturers and at 83% by the principals .These findings are similar to those of TVET students who mentioned that they needed communications, leadership and managerial competences included in teacher education curriculum.

A key informant emphasized the need for writing and communication competences in TVET curriculum because the training of journalists does not emphasize speaking or articulation skills. The key informant said some journalists in our country lack communications skills and put articles in newspaper with many grammatical and editorial mistakes.

KI: Certainly there must be those aspects in the curriculum and so and particularly on the ability to write. Today if you if you go through nation media for example or nation newspaper you will at least pick ten mistakes even in a page spelling mistakes, grammatical ...The other concern that we have the training of journalists do not emphasize on speaking and articulation skills so that ... Most of the top the top five journalists working in radio getting the highest pack are not journalists at all the people that have communication skills and all those are things that should harness in our training. The other thing that we should be able to harness is

patience as a value and the desire to make a difference as an individual through your work (KI-CEO-MCK-NAI)

4.2.3.2 Creativity Competences

The responses from the TVET lecturers and principals on the extent to which competencies classified under creativity should be emphasized in TVET curriculum are presented in Figure 4.23

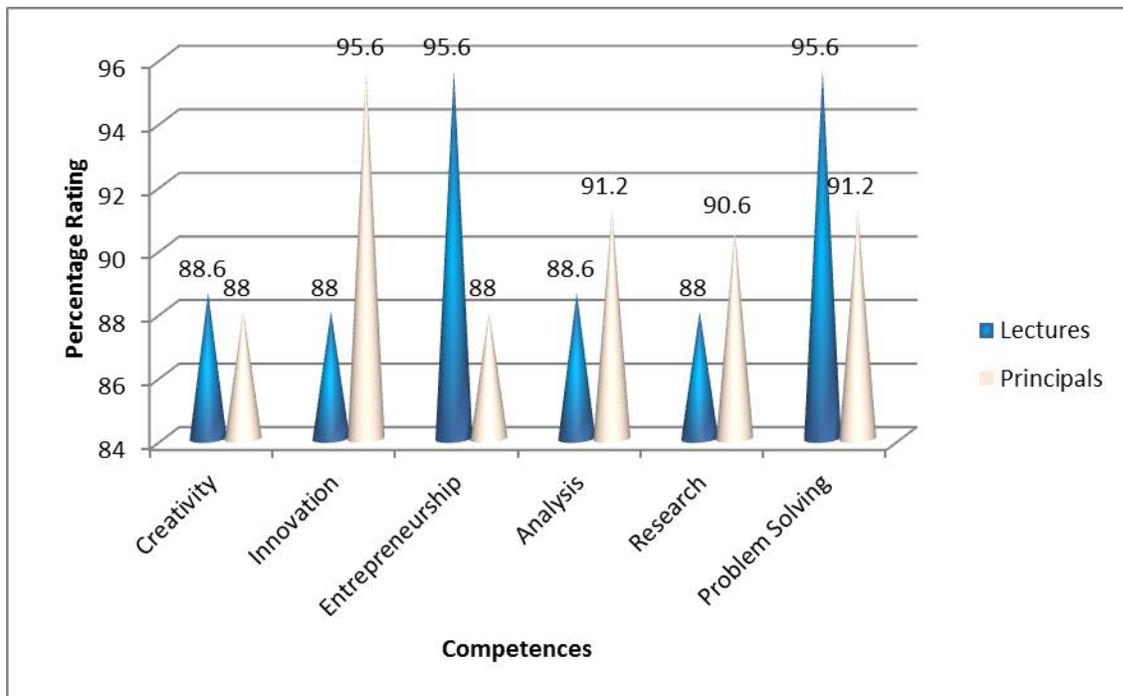


Figure 4.23: TVET Lecturers' and Principals' Responses on the Extent to which Competencies classified under Creativity should be emphasized in the Curriculum

The findings in Figure 4.23 shows that TVET principals rate innovation the highest competencies for inclusion in TVET curriculum at 95.6% while lecturers rate problem solving and entrepreneurship the highest competences for inclusion in TVET curriculum both at 95.6%.The least rated competencies for inclusion in TVET curriculum by principals are creativity and entrepreneurship both rated at 88% ,while research (88%) is the least rated competence by the lecturers .

These findings are similar to those of key informants and students who said problem solving, creativity, innovation and entrepreneurship should be included in TVET curriculum. The key informant and the memoranda mentioned that TVET students need

creativity innovation and entrepreneurial skills included in their curriculum to enable them create jobs for themselves and for others .In addition the students should have positive attitude towards work.

KI: At technical level they need to be self-reliant by the time they complete their courses they need to be self-reliance or employability ...being able deliver and give, they should also positive attitudes towards work they should also have entrepreneur skills because most of them should not expect to be employed but walk out and be entrepreneur whereby they can earn and employ others. Again one other thing is innovation and creativity. **(KI-CBE-KIT)**

ME: We need Self-driven, all-rounded graduates who are able to comfortably go for self-employment as an alternative to formal employment, considering the increasingly reducing opportunities in the job market. **(BUS-MAN-INF-NAI)**

KI: Have adequate literacy and numeracy, should be employers not job seekers. Should address issues within the village. Greatest concentration should be put in TVET. Focus on self-reliance. **(KI-FAWE-NAI)**

KI: In addition to having the capacity to innovate so as to improve on those skills for better results. They should accommodate other people with different skills and pull together. They should be innovative. **(KI-NCC-NAI)**

Key informants indicated that TVET student's curriculum should include skills such masonry and tailoring after form four when students are mature enough.

KI: TIVET is a critical area. We believe that to make our country development agenda a reality, the TIVET curriculum need to be aligned to address form four leavers not class eight or form two drop out. This is because at form four children have matured enough to realize their full potential. At 12 years children will not have developed the ability to take in such skills as masonry jua kali etc. First of all give them the necessary skills required in secondary school. ... A class eight drop out children are not the best of themselves. That is why when they are given a sewing Machine, watakanyanga jerahani But when you give these people skills, after form four, these people will become major designers, because they are innovative, but at class eight the designers will be calling them to Kanyangia Jerahani **(KI -KPSA -UG)**

4.2.3.3 Collaborations Competences

The responses from the TVET lecturers and principals on the extent to which competencies classified under collaboration should be emphasized in TVET curriculum are presented in Figure 4.24

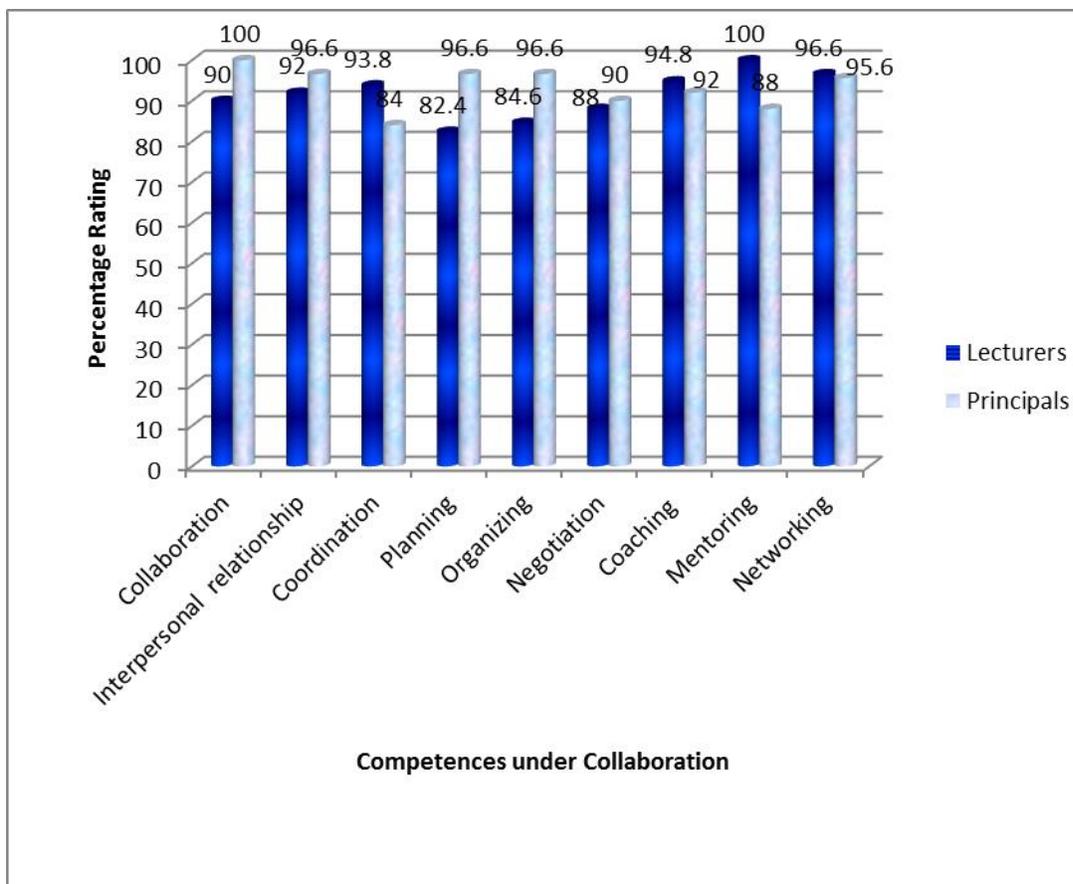


Figure 4.24: TVET Principals’ and Lecturers’ Responses on the Extent to Which Competencies Under Collaboration Should be Emphasized in the TTC Curriculum

From the findings in Figure 4.24, all the competencies are rated very highly above 80% by both TVET principals and lecturers for inclusion in TVET curriculum. The TVET principals rate collaboration as the highest competency for inclusion in TVET curriculum at 100%, while the lecturers rate it at 90%. The lecturers rate mentoring (100%) as the highest competency for inclusion in TVET curriculum while the principals rate it at 88%. The least rated competence by the principals for inclusion in TVET curriculum is coordination (84%) while the lecturers rate it at 93.8%. The least rated competence by the lecturers for inclusion in TVET curriculum is planning (82.4%). The key informants are in agreement with the lecturers and principals that mentoring, negotiations and interpersonal competences should be included in TVET curriculum.

KI: Have adequate literacy and numeracy, should be employers not job seekers. Should address issues within the village. Greatest concentration should be put in TVET. Focus on self-reliance. Gender must be mainstreamed. **(KI-FAWE-NAI)**

4.2.3.4 Critical Thinking Competences

The responses from the TVET lecturers and principals on the extent to which competencies classified under critical thinking should be emphasized in TVET curriculum are presented in Figure 4.25.

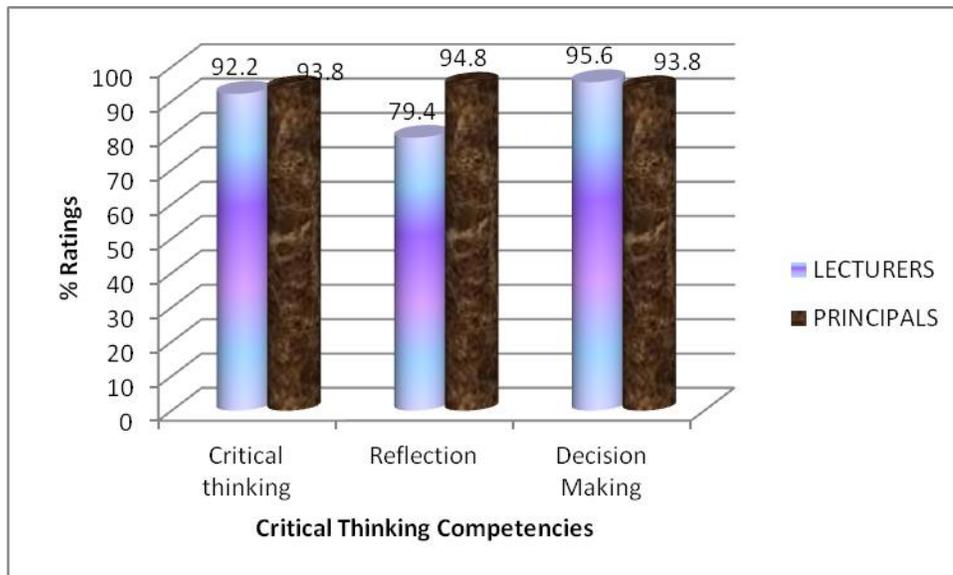


Figure 4.25: TVET Principals and Lecturers Responses on the Extent Critical Thinking Competencies Should be Emphasized in Curriculum

From the findings in Figure 4.25 all the critical thinking competencies are rated very highly above 79% by both TVET principals and lecturers for inclusion in TVET curriculum. TVET principals rate reflection as the highest competency for inclusion in TVET curriculum at 94.8% while the lecturers rate it as the least competency at 79.4%. The principals rate both critical thinking and decision making competencies at 93.8%.

Focused group discussion of TVET students and parents of students in TVET institutions identified the following competences for inclusion in TVET curriculum: Poultry keeping, building, research, HIV, electrical engineering, automotive, catering, hotel management, social work, farming, music, community development, teaching, business, food and beverage, singing, sports, athletics, swimming, clothing, love for the country, technical skills, independent living skills, carpentry, tailoring and computer technology.

The students and key informants were of the opinion that computer competences should be introduced in TVET curriculum. They argued that the students would benefit from computers in the development and marketing of their products to earn a living.

Student: Due to the technology we are living with right now it is better to engage ourselves in Form one. Because the generations we are living within like my little sister she knows everything in computer. Let us start it at class 6, with packages. Then computer studies when you go to secondary school. In colleges you do programming and packaging. All the levels should be provided with the adequate computers (**CS – FGD – ISTP - NIST - NYA**).

KI: The entrepreneurship component leaves a big gap. The element of ICT has not been incorporated in our TVET. If we could have ICT empowered students then they can be able to use ICT to look for new designs or marketing their work (**KI-CEE KWA**).

4.2.3.5 Values and Attitudes

This study sought to find out the values and attitudes that are needed for inclusion in TVET curriculum. Responses were sought from learners, student leaders, parents and key informants. The respondents identified the following values which need to be included in TVET curriculum: Socialization, loyalty, peace, negotiation, honesty, co-existence, selflessness, respect, faithfulness, etiquette, self-control, integrity, patience, accountability and transparency.

Student: So the other thing that we should emphasize is the cohesion... when we are talking. (**CS - FGD - TTIP - WOT - MAK**).

Student: Yes, I have something. So what I was emphasizing it is about corruption. So if corruption it is eradicated early in the society or in our communities, this will help us our children to grow, to grow upright, yaani they develop upright without thinking about corruption. So that should be emphasized. And the best thing is to start early campaign about the corruption and that will help the people to stop the corruption so the other thing that we should emphasizes, it is the retirement (**CS - FGD - TTIP - WOT - MAK**).

Students: We should be taught honesty, respect, patience, accountability transparency and Integrity ...how to respect our elders. (**STTI –TTIPMAC- MAC**)

KI: Certainly there must be those aspects in the in the curriculum and so and particularly on the ability to write...we should be able to harness patience as a value and the desire to make a difference as an individual through your work (**KI-CEO-MCK-NAI**)

KI: This involves the doing of the technical design. Values are handy here as one does the technical work. May it be a stool, what quality is to be brought out? Bring out a product that is not questionable. The values acquired in lower levels can be reflected on the products i.e. using dry timber and creating standards. Even when selling products what language is it endearing? Creating values and high standards of excellence is key here. (**KI-EAC-NAI**)

ME: We need a workforce with strong resentment towards corruption and well equipped to fight it morally and otherwise. A workforce that appreciates the ethnic diversity and is able to amicably integrate in all engagements. (**BUS-MAN-INF-NAI**)

The findings imply that TVET curriculum should endeavor to equip the students with competencies like mentoring, creativity, critical thinking, decision making, communication, collaboration, entrepreneurship and management skills which form a certain proportion of the 21st century skills. These competences would enable them become self-employed and reduce theft in the society as a way of earning a living. These findings are in line with the global trends which require that any education system should aspire to equip its graduates with the 21st Century skills as pointed out in the Partnership for 21st Century Skills (2005) policy guidelines that, to be educated today requires mastery of core subjects, 21st century themes and 21st century skills. The findings also concur with studies carried out in Singapore (Soland et al., 2013; Voogt&Roblin, 2012) that emphasize on the features of their framework for 21st century which include creative and critical thinking, communication and collaboration, and social and cultural skills which were core values that the Singapore education system hoped to cultivate in all its students.

Likewise findings agree with Soland et al. (2013) and Voogt&Roblin (2012) who pointed out that in Japan, as in Singapore, the competencies and pedagogical moves associated with 21st Century competencies are seen as a central means of using education to ensure sustained economic prosperity in the years to come.

The findings concur with a study carried out in Korea by IBE-UNESCO (2012) which revealed that a CBE is not in conflict with the existing curriculum and that specific subjects continue to provide a critical path in promoting acquisition of key competencies such as communication and efficient management.

The findings are similar with a survey conducted in Ghana by COTVET (2009) that affirmed that Competency Based Training is an industry and demand driven education and training programme, and its products have a high demand on the job market. The findings are also similar with Rychen and Salganik (2001) that a creative person should have divergent thinking, problem solving skills, originality, and ability to see or create new values. Considering the convergence on the need to nurture creativity in the curriculum and the literature encountered, constructs of problem solving, divergent thinking, research and innovation will find their place in the content of the proposed curriculum.

At the national level, the findings affirm what is in concurrence with the expectations drawn out in Kenya Vision 2030. The blue print for the country's development anticipates a middle-income country in which all citizens will have embraced entrepreneurship, be able to engage in lifelong learning, perform more non-routine tasks, be capable of more complex problem-solving, be able to take more decisions, understand more about what they are working on, require less supervision, assume more responsibility, and as vital tools towards these ends, have better reading, quantitative reasoning and expository skills (Republic of Kenya, 2012) .

The findings show that there is a growing national interest in the production of learners who can be counted in the global labour market. The highlights from the study are consistent with the analysis of (UNESCO 2015), which acknowledge that the global community has integrated most of these skills into a wide array of sectors.

4.2.4 TVET Content / Learning Areas

Learning area refers to the content to be taught and learned by the learners. The relevant content need to be taught in TVET institutions that will enable students acquire the relevant skills and competences they would require for their work at the end of their training. The study sought to find out the content that needs to be taught in TVET. The lecturers and principals were asked to indicate the extent to which some identified learning areas should be emphasized in the school curriculum using a five-pointer Likert Scale. They were required to indicate their choices by selecting one of the choices given as N for Not at all, VL for very little extent, NS for not sure, S for Some extent and G for Great extent. The different learning areas were clustered into broader learning areas. The findings are presented in figures according to the broader categorization.

4.2.4.1 Extent to Which Art and Design Should be Emphasized in TVET Curriculum

The responses of the extent to which art and design should be emphasized in TVET curriculum are presented in figure4.26.

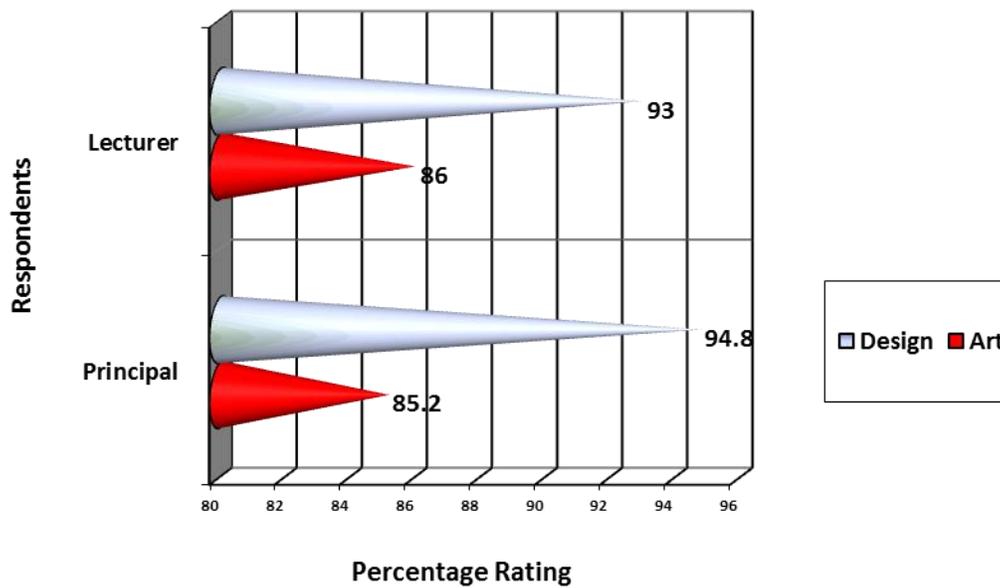


Figure 4.26: TVET Principals and Lecturers Responses on the extent to which Art and Design should be Emphasized in Curriculum

The findings in Figure 4.26 show that the TIVET principals rate design (94.8%) higher than the lecturers (93%) for inclusion in TVET curriculum. The lecturers rate Art (86%) slightly higher than the principals (85.2%) for inclusion in TVET curriculum.

4.2.4.2 Extent to Which Agriculture, Technology, Vocational and Technical Subjects Should be Emphasized in TVET Curriculum

Responses from TVET principals and lecturers on the extent to which agriculture, technology, vocational and technical subjects should be emphasized in the TVET curriculum are presented in 4.27.

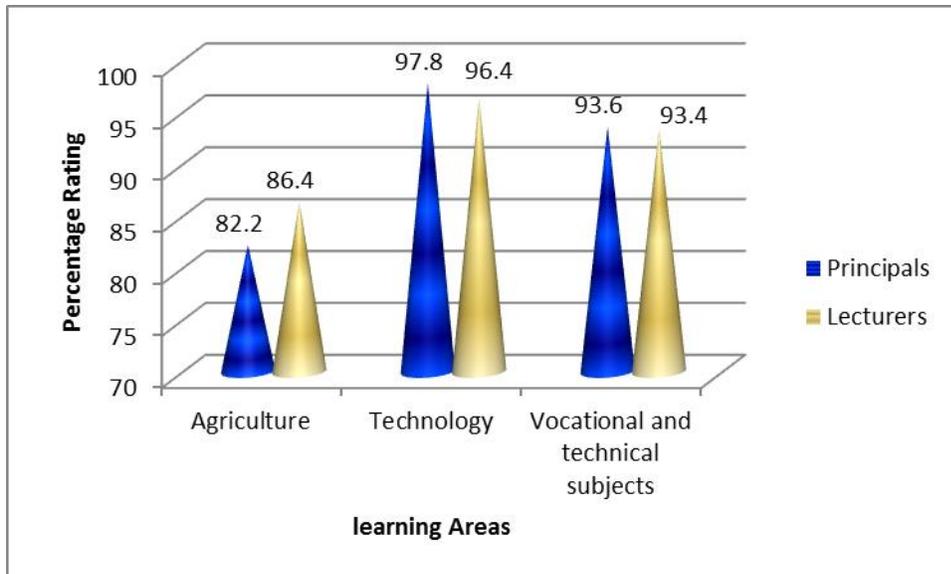


Figure 4.27: Extent Agriculture, Technology, Vocational and Technical Subjects Should be Emphasized in TVET Curriculum

Figure 4.27 indicate that the TVET principals rate emphasis of technology in TVET curriculum the highest at 97.8 % while the lecturers rate it at 96.4%. The least rated for inclusion into TVET curriculum by both the lecturers (82.2%) and principals (86.4%) is agriculture. Likewise the TIVET students and key informants indicated that TVET curriculum should cover technology and technical subjects, such as, wood work and tailoring content

Student: I would expect to see if there was...at least somebody has something to do...maybe those polytechnics...they can offer dressmaking...so you can come up with your own business (CS – FGD – TTCPP- MAA - KAJ)

The key informants further mentioned that TVET students should be taught modern technological skills like ICT to enable them perform their work better

KI: The element of ICT has not been incorporated in TIVET. If we could have ICT empowered students then they can be able to use ICT to look for new designs or marketing their work. (KI-CEE-KWA)

Student: In colleges you do programming and packaging. All the levels should be provided with the adequate computers (CS – FGD – ISTP - NIST - NYA).

4.2.4.3 Extent to Which Physical Education Should be Emphasized in TVET Curriculum

Responses from TVET principals and lecturers on the extent to which physical education should be emphasized in TVET curriculum are presented in Figure 4.28.

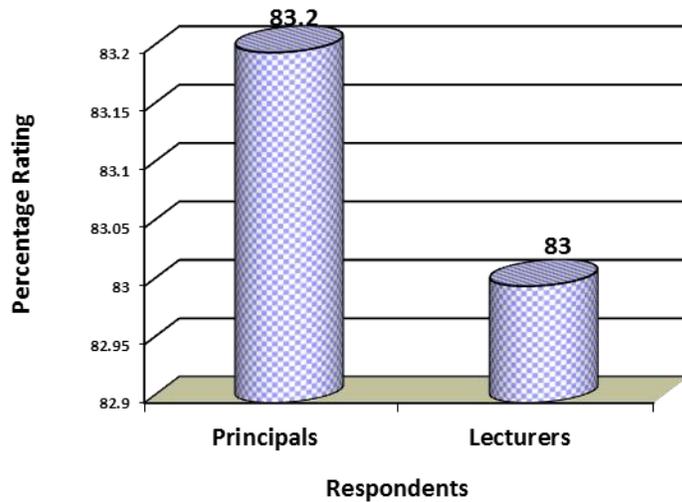


Figure 4. 28: Principals and Lecturers Responses on the Extent to which Physical Education Should be Emphasized in the Teacher Education Curriculum

Figure 4.28 shows that TVET principals rate the emphasis of physical education in the TVET curriculum at 83.2% which is slightly higher than the lecturers rating of 83%.

4.2.4.4 Extent to which Humanities should be Emphasized in TVET Curriculum

Responses from TVET principals and lecturers on the extent to which humanities should be emphasized in TVET curriculum are presented in Figure 4.29.

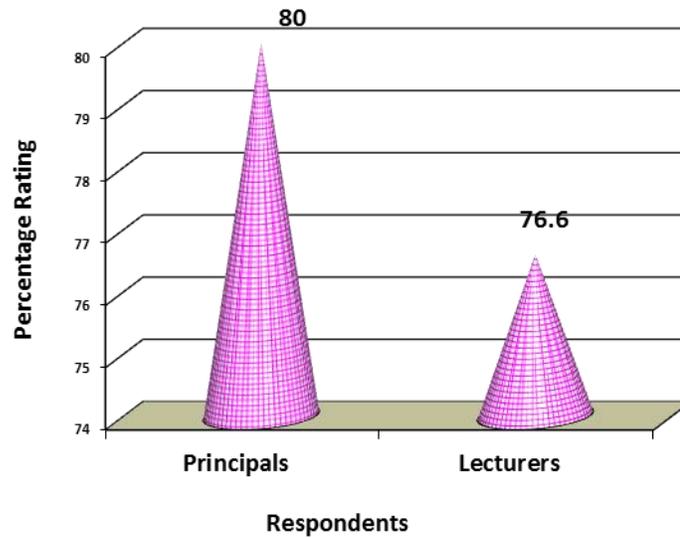


Figure 4.29: Principals and Lecturers Responses on the Extent to which Humanities Should be Emphasized in the TVET Curriculum

The findings in Figure 4.29 indicate that the principals rate the emphasis of humanities in TVET curriculum at 80%, while the lecturers rate it at 76.6%. Just like the TIVET lecturers and principals the student and key informants said they want TVET curriculum to include humanities like CRE which would help them grow spiritually.

Student: I believe at this level, we are mature people and are not controlled to go to church. I think they should introduce C.R.E that will help ... grow spiritually. (STTI –TTIPEGE- NYAM)

4.2.4.5 Extent to Which Environment and Climate Change Should be Emphasized in the TVET Curriculum

Responses from TVET principals and lecturers on the extent to which environment and climate change subjects should be emphasized in TVET curriculum are presented in Figure 4.30.

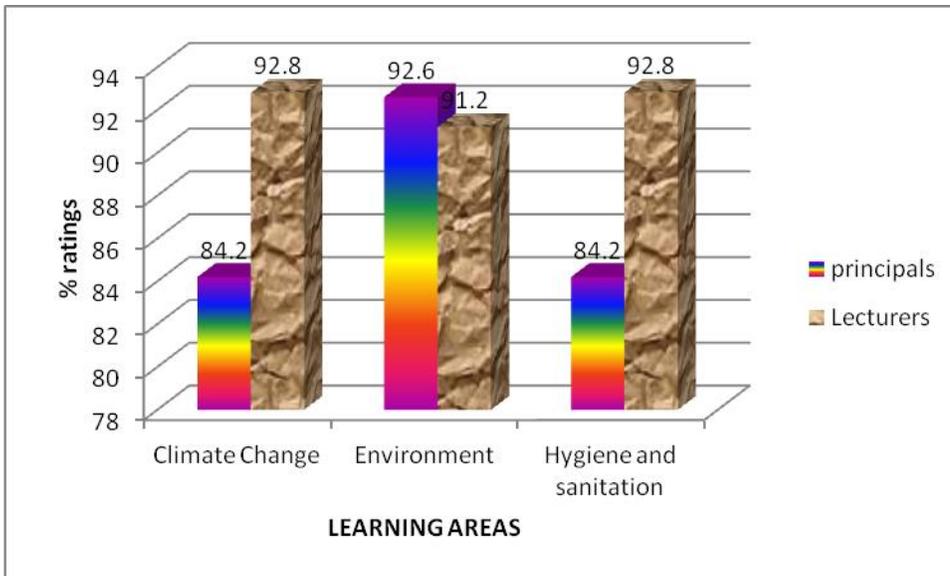


Figure 4.30: TVET Principals and Lecturers Responses on the Extent Environment and Climate Changes Should be Emphasized in Curriculum

According to findings in Figure 4.30, TVET lecturers rate the inclusion of climate change and hygiene and sanitation into TVET curriculum the highest both at 92.8%, whereas the lecturers rate the emphasis of climate change and hygiene and sanitation in the TVET curriculum the least, both at 84.2%.

4.2.4.6 Extent to Which Financial Subjects Should be Emphasized in TVET Curriculum

The principals and lecturers rated the extent to which financial subjects should be emphasized in TVET curriculum. Their responses are presented in Figure 4.31.

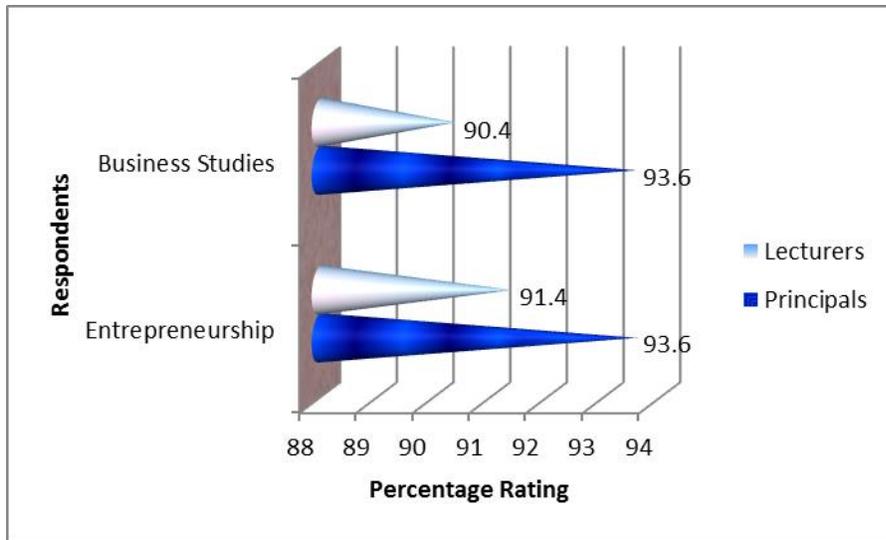


Figure 4.31: TVET Principals and Lecturers Responses on the Extent to Which Financial Subjects Should be Emphasized in TVET Curriculum

The findings in Figure 4.31 show that the principals rate the emphasis of business studies and entrepreneurship content in TVET curriculum the highest, both at 93.6 %, while the lecturers rate emphasis of business studies in TVET curriculum the least at 90.4%.

The lecturers, principals, parents, students and the key informants were all in agreement that TVET curriculum should include business and entrepreneurship skills. They pointed out that TVET content should include drawing, driving, poultry keeping, cattle rearing, carpentry, building, catering, food and beverage, hair dressing, dress making and beauty therapy

KI: At TVET the learners should be taught skills like cattle rearing, pastoralism and entrepreneurship.
(KI-TCD-GAR)

Parent: Courses in Ukunda Polytechnic should be those courses of the needs of the local people in Kwale or Ukunda...Kwale is a tourist place, so courses on tourism should be taught...The whole of Coast Province has no college on catering yet Coast depends on tourism. (PA -FGD -TTIP- UKU - KWA)

Student: I would expect to see if there was...at least somebody has something to do...maybe those polytechnics...they can offer dressmaking...so you can come up with your own business
(CS - FGD - TTCPP- MAA - KAJ)

4.2.4.7 Extent to Which 21st Century Subjects Should be Emphasized in TVET Curriculum

The Principals and lecturers rated the extent to which 21st Century Subjects which are mathematics; languages and sciences subjects should be emphasized in the TVET curriculum. Their findings are presented in Figure 4.32.

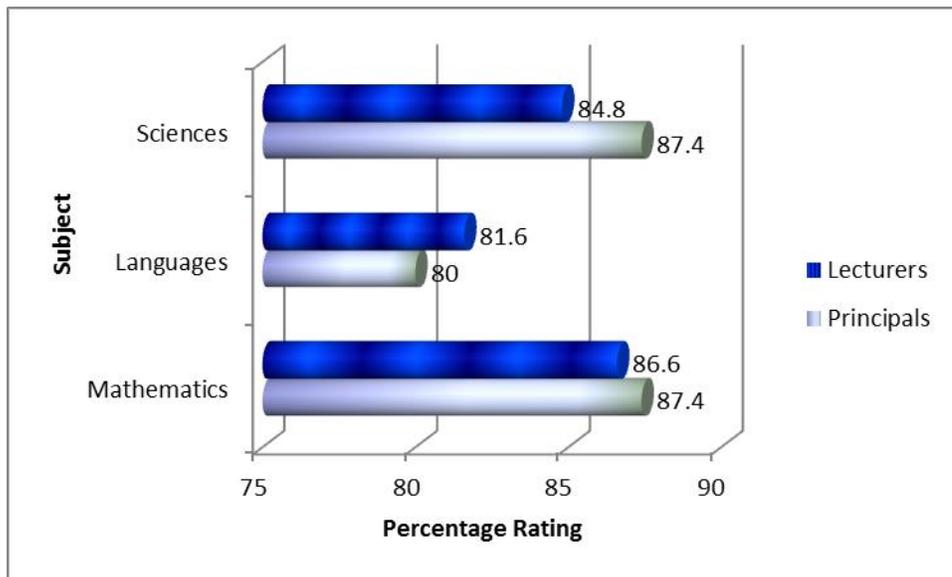


Figure 4.32: Principals and Lecturers Responses on the Extent to Which 21st Century Subjects Should be Emphasized in TVET Curriculum

The findings in Figure 4.32 shows that the highest rated 21st century subjects by the principals for emphasis in TVET curriculum are mathematics and sciences both at (87.4 %). The least rated subject by the principals is languages (80%). The highest rated 21st century subject by the lecturers for emphasis in TVET curriculum is mathematics (86.6%) ,while the least rated subject by the lecturers is languages (81.6%). The parents, key informants and students just like the lecturers are all in agreement that languages, mathematics and science be include in TVET curriculum. They mentioned that TVET students need to develop good communication and writing skills. They also added that TVET students need to learn police science.

4.2.4.8 Extent to Which Home Science Subjects Should be Emphasized in TVET Curriculum

The Principals and lecturers rated the extent to which home science subjects should be emphasized in the TVET curriculum. Their findings are presented in Figure 4.33.

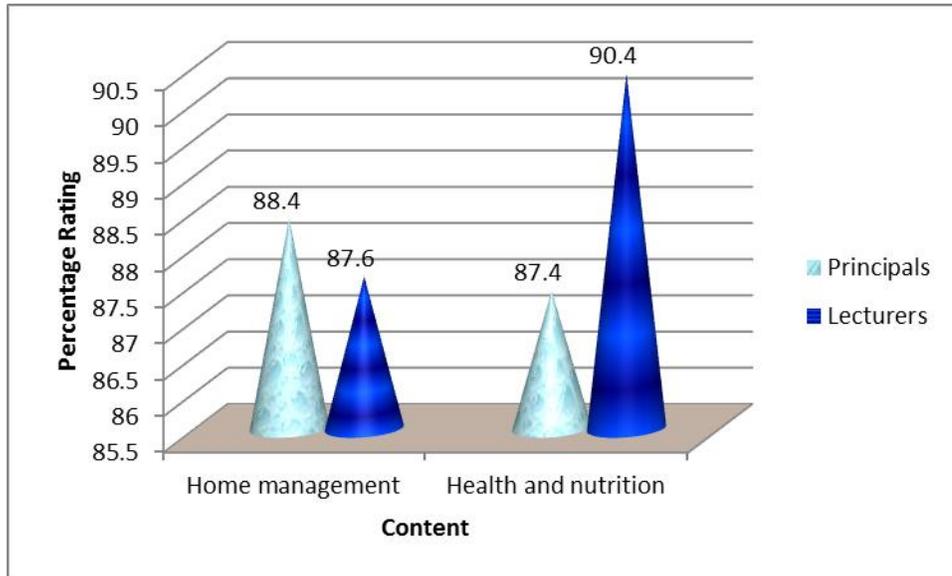


Figure 4.33: Extent to Which Home Science Subjects Should be Emphasized in TVET Curriculum

Figure 4.33 shows that health and nutrition is rated higher than home management for emphasis in the TVET curriculum by the lecturers (90.4%), while it is rated the least by the principals (87.4%). The principals rate the emphasis of home management in the TVET curriculum at 88.4%, while the lecturers rate it at 87.6%. Similarly, the TVET students gave the opinion that they would like to learn health and nutrition because they would like to become nutritionists after completion of their studies.

Students: I would like to be a nutritionist when I leave school. (STTI- TTIPRTI-UG)

The TVET students suggested other areas of learning that are not mentioned by the lecturers and principals that need to be included in TVET curriculum. These are contemporary issues like insecurity, corruption and gender which are facing the country.

Student: I would say that currently, Kenya is facing a lot of challenges, at the tertiary level, I would advise the curriculum to be engaging at what is now facing the country, like the al shabaab who are attacking the country. (STTI -TTIPEGE -NYAM).

Student: We need to address corruption in schools. As we elect our student council, there is so much corruption that the results are flawed. (CS – FGD – ISTP - NIST - NYA).

The students, parents and the key informants suggested the following content /learning areas for inclusion in TVET curriculum :Research, welding, automotive, electrical engineering, social work, management, community development, teaching, leadership, singing, healthy living, diseases, music, marketing, Geo Informatics System (system to support survey), structural engineer, material engineering and guidance and counseling .They also suggested that gender should be mainstreamed in the curriculum.

KI: Gender must be mainstreamed. (KI-FAWE-NAI)

The findings show that TVET curriculum should lay emphasis on 21st century subjects and financial subjects which forms the foundation of the country's technological development. This finding is similar to what is happening in the education systems in the world in which more emphasis is laid on development of strong content knowledge in subjects such as sciences, mathematics, and languages (Government of Malaysia 2012).

The findings further concur with what happened in countries like Singapore and Malaysia with high technological development and have put great emphasis on mathematics and sciences as a foundational requirement for their technological advancement. The Malaysian education system, like others around the world, has emphasized the development of strong content knowledge in subjects such as science, mathematics, and language (Government of Malaysia, 2012)

The findings indicate that critical thinking, communication and collaboration should be emphasized in TVET curriculum which is in line with similar studies carried out in Singapore (Soland et al., 2013: Voogt&Roblin, 2012), which emphasis on the features of their framework for 21st century, including creative and critical thinking, communication and collaboration, and social and cultural skills, which were core values that the Singapore education system hoped to cultivate in all its students.

The findings concur with Soland et al. (2013) and Voogt&Roblin (2012) who pointed out that in Japan, as in Singapore, the competencies and pedagogical moves associated with 21st Century competencies are seen as a central means of using education to ensure sustained economic prosperity in the years to come.

It should also be noted that Vision 2030 puts emphasis on the importance of Agriculture, financial literacy and entrepreneurship as well as mainstreaming of science, technology and innovation in the school curriculum (Gok, 2007).

Besides this, it should also be noted that there is need for localized courses like tourism, cattle rearing, pastoralism and entrepreneurship .This will enable all citizens to be able to engage in work that relates well to the needs of the local area where one lives in and earn a source of living . These findings concur with the Kenya vision 2030 that places great emphasis on the link between education and the labour market and, the need to create entrepreneurial skills and competences in the country's man power.

The findings indicate the need for emphasis of ICT, research and innovation in TVET curriculum .This concurs with sessional paper No 1 of 2012 on Kenya vision 2030 which proposes intensified application of technology, innovation, science and research. The findings are in line with the NESP (2015) that makes it very clear that the curriculum is expected to empower the citizens with necessary knowledge and competencies to realize the national developmental goals.

The finding that art and design be emphasized in TVET curriculum is supported by studies carried in Nigeria by Ajibade and Elemi (2012), (Enamhe, 2001) and Ajakey (1982) which show that creative arts influence successful teaching through sketches or illustrations. Additionally, art as a subject may compensate for the education of persons who are not science inclined.

The emphasis of vocational and technical subjects in TVET curriculum is in line with a study by Herman (2011) in 18 countries, whose results indicated that students from vocational streams acquire skills better and had better chances to get employment and a higher salary.

The finding on emphasis of physical education in curriculum is in line with monitoring studies carried out by KIE (2004, 2006, 2007) which indicated that Physical Education need to be taught due to its vital role in promoting healthy physical, emotional development and social interaction among the learners . The inclusion of issues of environment and climate change in curriculum is supported by the sustainable development goals (UNESCO, 2015). The finding that languages be emphasize in TVET curriculum is anchored in Sessional paper No. 2 of 2015, which calls for education for global competitiveness and the

Kenya Constitution 2010 (GoK, 2010) which advocates for teaching of English, Kiswahili and Mother Tongue in schools.

4.2.5 TVET Teaching and Learning Resources

The successful implementation of a curriculum requires the use of a variety of resources that enable the student to learn through a rich and varied selection of instructional materials. Resources enhance learning, make it enjoyable and enhance understanding (Clay, 2016). This study sought to find out the resources that are needed in TVET institutions for implementation of competency based curriculum. An observation of resources available in each TVET institutions visited was conducted. Figure 4.34 show the availability of resources observed.

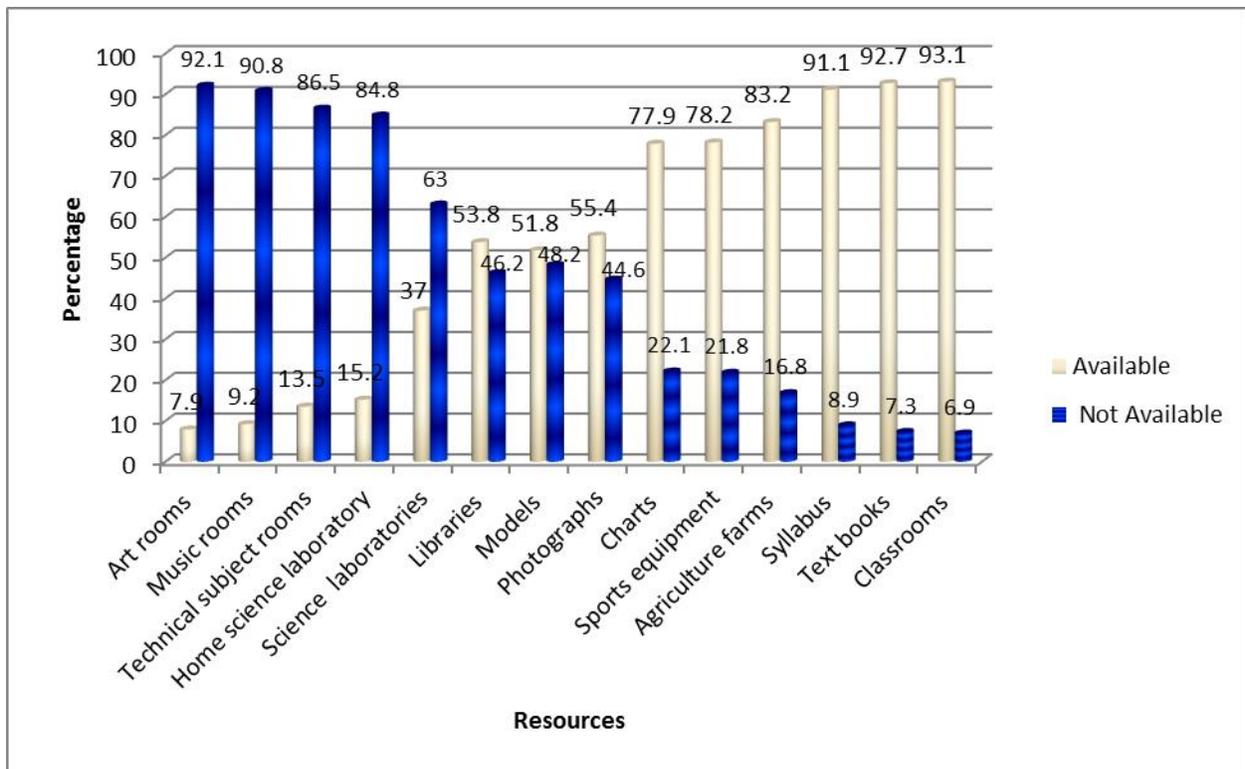


Figure 4.34: Availability of TVET Teaching and Learning Resource

Figure 4.34 shows that majority of the TVET institutions have classrooms (93.1%), textbooks (92.7%) and syllabus (91.1%). However art rooms (92.1%), music rooms (90.8%), technical subjects rooms (86.5%), home science rooms (84.8%) and science laboratories (63%) are unavailable in the sampled TVET institutions. The TVET students are in agreement with the lecturers and principals that resources in TVET institutions are inadequate.

Student: That's why you find the people from Jua kali have more experience in terms of practical compared to us and for us to improve maybe to compare ourselves to South Africa or Malaysia we should be given more resources for us to achieve that goal so that if you are interviewed with them you can be somewhere (CSL - TTIP - MAW - HOM).

Student: In colleges you do programming and packaging. All the levels should be provided with the adequate computers (CS – FGD – ISTP - NIST - NYA).

Student: Inadequate tools and worn out and need for computer practicals (CS – FGD – YPP - NAI - BUN)

Student: The government should be improving resources such as labs, stationery, and furniture and adding of classes to facilitate more students and employ more teachers (CSL -TTIP - WOT - MAK).

When the TVET students and parents in a focused group discussion and the key informants in interviews were asked to mention the resources they would require in TVET institutions for curriculum implementation they identified the following: Modern equipment such as computers, books, library technicians, balls, pens, exercise and text books, uniform, internet connectivity, electricity, television, GIS instruments e.g. Geodetic – GPS to replace total station, instructors, boarding facilities, local testing kits, Information science instruments, advanced reading materials, practical materials and equipment, funds, libraries, Wi-Fi, qualified teachers/instructors, radio, desks, libraries, sewing machines, video cameras, laboratories, laptop, modem, netball, football, table tennis, open up polytechnics in all counties, machines and smart phones .

SL: At least you should come up with a strategy, maybe if it is to employ the technicians who will be coming to inspect or perform some interview of our lecturers so that the lecturers should have a wider knowledge of their subjects (SL TTIP BUM BUS)

Students: I think the students taking civil engineering, they should be provided with machines and constructions materials... (STTI –TTIPRTI- UG)

Student: Leaders to provide the institutions with the assistance they need... technologically... we need the government to equip the students with the modern technology. (STTI –TTIPEGE-NYAM)

Student: Inadequate tools and worn out and need for computer practical (CS – FGD – YPP - NAI - BUN)

KI: You may need very good library, you need modern facility computers, for example if you are in media you need proper editing suites, you need ...studios, you know you need cameras you need ...steel cameras, you need video cameras, and then you need ...Proper skills in terms of use of computers and designing desktop , kind of skills you know so that people can be able to do desktop publishing and all that and ... more importantly also you need some better environment for learning with ample space well aerated, clean space, isolated from the pubs, the markets, (KI-CEO-MCK-NAI)

4.2.5 .1 TVET Support

This study sought to find out the type of support the TVET institutions would require for curriculum implementation. The parents and students in focus group discussions were of the view that students can be supported by providing them with basic resources relevant to their needs like uniform, shoes, stationeries and equipment.

Parent: We have footballers but you will find this footballer has no shoes, no uniform, such a person is demoralized but if balls are there, shoes are there, if the materials are there the player will be encouraged to practice more (PA FGD TTIP UKU KWA)

Parent: If you see a child interested in farming, you encourage him/her on farming by buying him/her equipment for farming, you send him/her to agricultural shows, to see how farmers do their work and the equipment for farming (PA FGD TTIP UKU KWA)

Student: The government should be improving resources such as labs, stationery, and furniture and adding of classes to facilitate more students and employ more teachers (CSL -TTIP - WOT - MAK).

The students expressed the desire to be supported by provision of adequate qualified lecturers.

SL: There should be lecturers who are to teach in technical institutes maybe basically these students who have gone through the technical education. Because the lecturers from universities come to teach you, but the technical classes he does not just understand what he is telling you... he has to read while teaching so it's very difficult to understand things because he is also in the process of learning and teaching (SLTTIP BUM BUS)

Student: I think as in our institution the overworking of teacher should be reduced. You see a teacher in one class then he will go to another in the next lesson. The government should increase the teachers (CS – FGD – YPP - NAI- BUN

Student: What I can say first in terms of education in our technical institutions, there is a big challenge we face and what I can say for us to improve the education sector within our institutions, first thing is the matter of having more teachers and teachers who are more educated concerning the subject they are teaching yea (CSL - TTIP - MAW - HOM).

Students: I think each, every other place, every other maybe e.g. in ukambani, the education system must be the same as any other place out there. You know there is maybe in here Makueni. We are more equipment with each equipment, more equipment's there is somewhere in Turkana, they don't have teachers, they don't learn actually, so I think the education they must consider other places to build more schools and teachers. (CSL -TTIP - WOT - MAK).

Student: I think as in our institution the overworking of teacher should be reduced. You see a teacher in one class then he will go to another in the next lesson. The government should increase the teachers (CS – FGD – YPP - NAI- BUN)

Student: What I can say first in terms of education in our technical institutions, there is a big challenge we face and what I can say for us to improve the education sector within our institutions, first thing is the matter of having more teachers and teachers who are more educated concerning the subject they are teaching yea (CSL - TTIP - MAW - HOM)

Student: Teachers- when the teachers leave, there should be addition of more teachers by the government thus the students cannot miss out. The government should also look into the issue of teachers strike and pay them (CSL -TTIP - WOT - MAK).

The students suggested that the government should support the TVET students with loans to cater for their education cost.

Student: I would like to say that, the government should support the TTI trainee with loans to continue with their studies which they can pay back when they are employed. (STTI -TTIPEGE -NYAM)

The students pointed out that there is need for the government to construct TVET institutions in all counties to cater for all students who do not make it to the universities.

Student: Maybe again generally on education. There are these middle-level colleges which normally train...like polytechnics. I think these polytechnics should be increased because of the learners who are not able to go to other colleges, or university, or maybe they are interested in other things like they want to learn those skills. I am not seeing the government supporting this so much. You normally find people talking about secondary education, university education; we are not informing people about these other polytechnics. When I tell people that I am in a polytechnic, they see you as a failure maybe. Those are things which can end (CSL – TTCP – NAR - NAR).

The findings show that TVET institutions need to be more equipped in terms of teaching and learning resources, and qualified teaching staff. This means that the students are lacking the benefits they should get from the resources hence not adequately exposed to practical skills which they would require to develop in their training. This finding agrees with an observation made by Deolikar (1997) where he points out that inadequacy of school equipment is one of the most important factors adversely affecting the quality of education in Kenya. The findings agree with McAliney (2009) who indicated that for effective teaching and learning, quality human and physical resources are required.

The findings are in line with a study by Bauer, Brust and Hubbert (2002) which found out that investment in physical resources contribute directly to academic learning environment. He indicated that the other resources that may influence learning environment are well stocked libraries, well supplied and maintained classrooms with laboratories including computer labs and well maintained grounds.

4.2.6 TVET Pedagogical Approaches

Pedagogical approaches are also referred to as learning approaches or teaching methods. Literature defines pedagogical approaches as instructional strategies and techniques of carrying

out instruction in the delivery of curriculum content. Pedagogy as a discipline deals with the theory and practice of education. There are various approaches that are used in teaching and learning. Teachers need to use varied teaching approaches to enable the learners understand easily. The study sought to find out the pedagogical approaches that can be used in TVET. The lecturers and principals were requested to indicate the extent to which some identified teaching approaches should be used in TVET in a three pointer Likert Scale. They were required to indicate their choices by selecting one of the choices given as N for Never, R for and A for Always. The responses they gave were grouped in categories as 21st Century teaching strategies, practical methods, experiential learning and lecture method .The different categories are presented in figures 4.35 to 4.39.

4.2.6.1 The 21st Century Teaching Strategies

The responses from TVET principals and lecturers on the extent to which 21st century teaching strategies should be emphasized in TVET curriculum are presented in Figure 4.35.

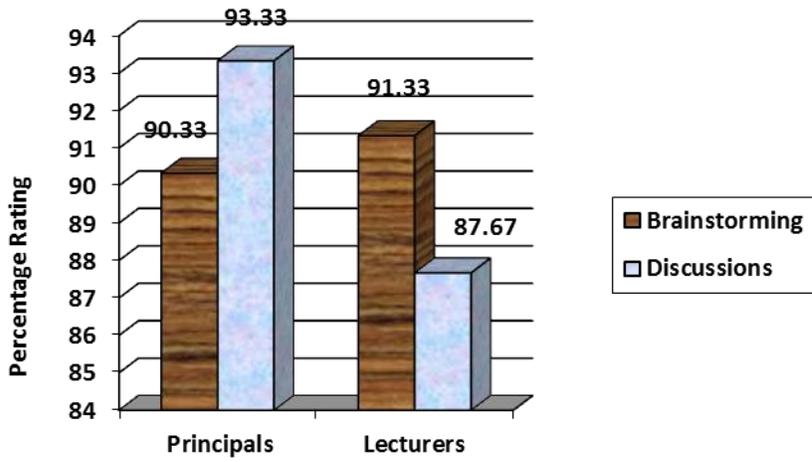


Figure 4.35: Responses by TVET Teachers and Principals on 21st Century Learning Approaches

Figure 4.35 shows that the TVET lecturers rate discussions as the highest 21st century teaching strategy at 93.33% while the principals rate brainstorming as the highest 21st century teaching strategy at 91.33% for use in teaching and learning in TVET. Similarly the students are in favor of discussions and brainstorming pedagogical approaches in teaching and learning.

Student :Another thing what I can say is about the students coming together from different technical institutions and sharing ideas what they are being taught in different institutions so that at least they can

have more knowledge. And due to that we are seeing in the universities we have if for example Nairobi university and Maseno university the leaders meet and sometimes and share ideas. In a technical institution that one is not happening. So we want to encourage that leaders from different institutions can meet even once and share ideas from their institutions so that they gather more knowledge when they are coming to their students they teach them what they have learnt from their colleagues (CSL -TTIP- MAW - HOM).

4.2.6.2 Practical Methods of Teaching

The responses from TVET principals and lecturers on the extent to which practical based approaches should be emphasized in TVET are presented in Figure 4.36.

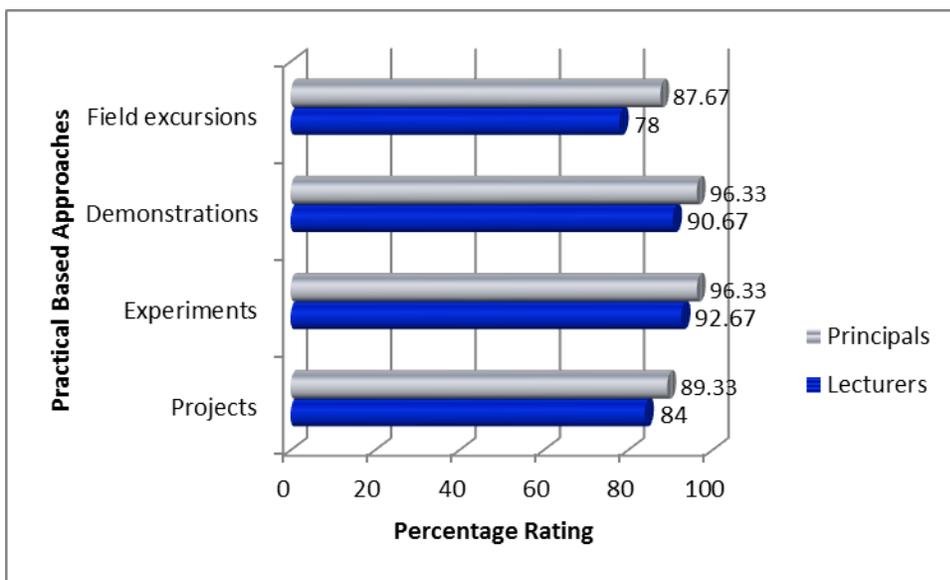


Figure 4.36: Responses by TVET Lecturers and Principals on Practical Based Approaches

From the findings in Figure 4.36, demonstrations and experiments based approaches are rated highest by principals at 96.33% while demonstrations are rated at 90.67% by the lecturers .Field excursions are the least rated practical teaching and learning methods by lecturers at 78% while the principals rate it at 87.67%.Likewise a TVET student leader was in favour of use of practicals in teaching and learning in TVET which was missing in their institutions and said;

Student: If you are in a college and most of the things you are doing are only theory with no practical's it's very difficult for a student when they are going out there you force them to go for jua kali to gain experience rather than gaining it here (CSL -TTIP - MAW - HOM).

4.2.6.3 Learners' Activity Based Approaches

The responses from TVET principals and lecturers on the extent to which learners activity based strategies should be emphasized in TVET are presented in Figure 4.37.

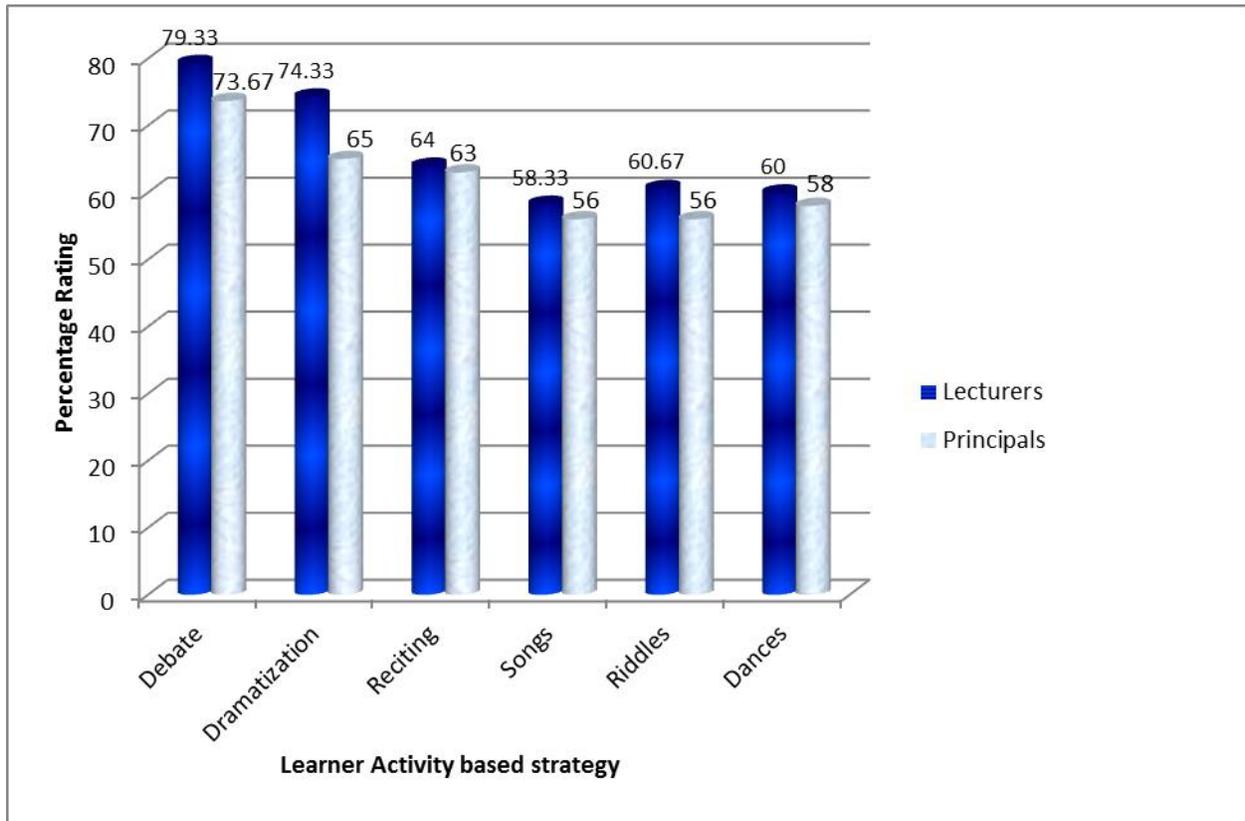


Figure 4.37: Responses by TVET lecturers and Principals on Learners Activity Based Approaches

According to Figure 4.37 both lecturers and principals of the TVET institutes rate debate as the highest learners' activity based strategy of teaching and learning at 79.33% and 73.67% respectively. The lecturers rate songs (58.33%) as the least learners' activity based strategy of teaching and learning at TVET, while the principals rate songs and riddles at 56 % as the least learners' activity based strategy of teaching and learning.

4.2.6.4 Experiential Learning Strategies

The responses from TVET principals and lecturers on the extent to which experiential learning strategies should be emphasized in TVET curriculum are presented in Figure 4.38.

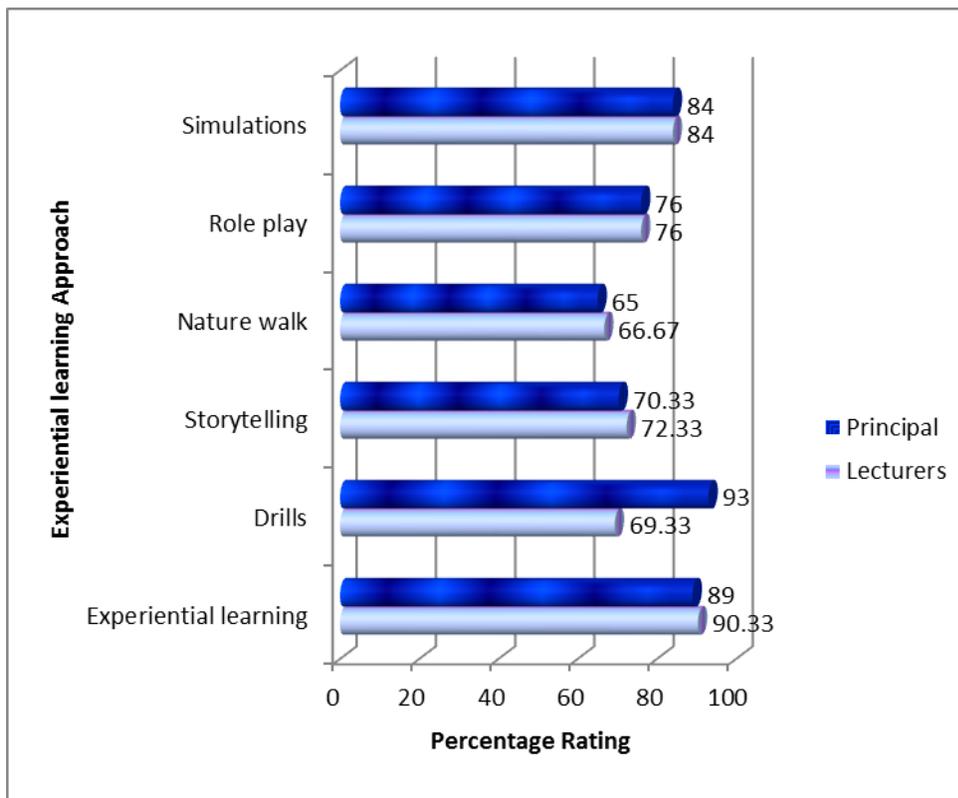


Figure 4.38: Responses by TVET Lecturers and Principals on Experiential Learning Approaches

Figure 38 shows experiential learning is the highest rated learning strategy by TVET lecturers at 90.33% while drills were the highest rated experiential learning strategy by the principals at 93%. Both TVET lecturers and principals rate nature walk the lowest experiential learning strategy at 66.67% and 65% respectively. Similarly the students, student leaders and key informants are in favour of nature walk, role play and experiential learning .They indicated that learning in TVET should be interactive and that learners should be allowed to apply what they have learned. Some of their statements regarding their favour of such approaches are

KI: So there is need for strong interaction between the teacher and the students opposed to increased kind of lecture format of training and there must be a lot of practical work so that if for example, you are a journalist and you have been trained on feature writing the next thing that should happen is that you should be let out to go and write a feature several of them. **(KI-CEO-MCK-NAI)**

Student: If for example I take agriculture and all I see is subsistence farming. Then I will tend to think it is all about that. The curriculum should state that all students should go out and see those big farms. Link education with the career areas **(CS –FGD – ISTP - NIST - NYA)**

Student: The student should be given motivational talks. Role models should be called to talk to pupils **(CS– FGD – ISTP - NIST - NYA).**

Student: In courses like electrical more practice should be given a lot of time and units that are not helpful being remove (CS – FGD – ISTP - NIST - NYA).

KI: people learn differently... lecture method works up to a certain way... you actually need to let those children know whether it is to explore you.... There are group work, role play, discussions, experience sharing...methodology really needs to change and you know if that happens, then even the size of the classes need to change, the number of the teachers (KI-KNHCR-NAI)

4.2.6.5 Lecture Method

The responses from TVET principals and lecturers on the extent to which lecture method should be emphasized in TVET curriculum are presented in Figure 4.39.

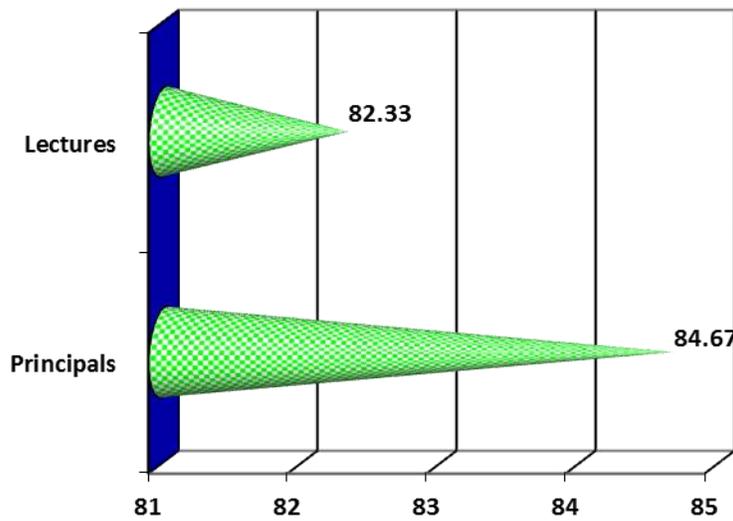


Figure 4.39: Lecture Method

According to the findings in Figure 4.39, the TIVET principals rate lecture method of teaching and learning in TVET at 84.67%, higher than the lecturers who rate it at 82.33 %.These findings are similar to those of the key informants and college students who are in favor of lecture approach, but added that its use must be limited to give room for practical work.

KI: people learn differently...lecturer method works up to a certain way (KI-KNHCR-NAI)

KI: So there is need for strong interaction between the teacher and the students opposed to increased kind of lecture format of training and there must be a lot of practical work (KI-CEO-MCK-NAI)

The TVET students proposed resource persons can be utilized in TVET institutions to offer motivational talks.

Student: The student should be given motivational talks. Role models should be called to talk to pupils (CS- FGD – ISTEP - NIST - NYA).

From the findings of this study, it is important to consider the use of 21st century approaches while delivering the competence based curriculum in TVET institutions. Discussion and brainstorming are some of the 21st Century learning approaches which were given high ratings by the respondents. Other pedagogical approaches which were highly preferred by the respondents include experimentation, demonstration method, experiential learning and project based learning.

The concept of 21st century learning approaches might be new in Kenya but in the developed countries it is not new. TVET lecturers in this era need to be transformed into facilitators and mentors and their role change, such that they will assume the role of creating a conducive environment for acquisition of knowledge, skills and attitudes to take place. Respondents indicated that learning should be interactive and that learners should be allowed to apply what they have learned. The findings of the study reveal a desire for instruction that is more learner centered, approaches that are interactive and geared towards the acquisition of practical skills. This persistent preoccupation with methods which in the respondents view, liberate the learner, is fuelled by the growing concern amongst Kenyans of the emergent skill gaps in the job market. In order for the products of the Kenyan education system to be ‘work and life-ready’, Kenyans seem to be persuaded that a competency based curriculum is the answer.

The Ministry of Education, Science and Technology (MoEST) call has been for a skills oriented instruction as stipulated in Kenya Vision 2030. Vision 2030 defines the desirable skills to be acquired by learners thereby providing a rationale for the implementation of the relevant pedagogical approaches

This implies that the practical approaches need to be included in the curriculum reform which is learner centered. The findings are similar with KIE (2013), which indicates that for effective teaching to take place, a good method should be adopted by a teacher, and support learner centered methods that enhance participation in the learning process and improve individual concentration. Globally, emphasis is being put on the use of 21st Century approaches towards

teaching and learning. The findings are similar to Republic Polytechnic (2016) which indicates that the 21st century approaches are based on the idea of learning by doing which in recent decades is considered by many to be the way forward for a progressive education system. The findings also concur with Ongondo (2010) that learning through collaboration is increasingly gaining support as a learning approach.

4.2.7 TVET Talents Identification and Development

This study sought to find out the talents that can be developed in TVET learners, ways of identification and how they can be developed. The students, parents, key informants and student leaders identified the following talents that TVET students have: Football, netball, athletics, drama, karate, dancing, swimming, singing, art and design, poetry, rugby, hockey, comedy and modeling.

Student: we should have those specialists in those areas e.g. poetry, music, in primary and secondary, by the time they reach colleges they a lot in them. **(STTI- TTIPRTI-ELD).**

Student: And if somebody is, sasa, an example is good in playing soccer; he can get a sponsor in the same **(CSL - TTIP - WOT - MAK).**

Student: If you are talented in games or a skill, the school or the government should encourage you and motivate you to achieve that **(CS – FGD – ISTP - NIST - NYA).**

4.2.7.1 Talent Identification and Nurturing

The lecturers and principals were requested to mention the ways that can be used to nature talents among students. The findings of the principals and college lecturers are presented in Figure 4.40.

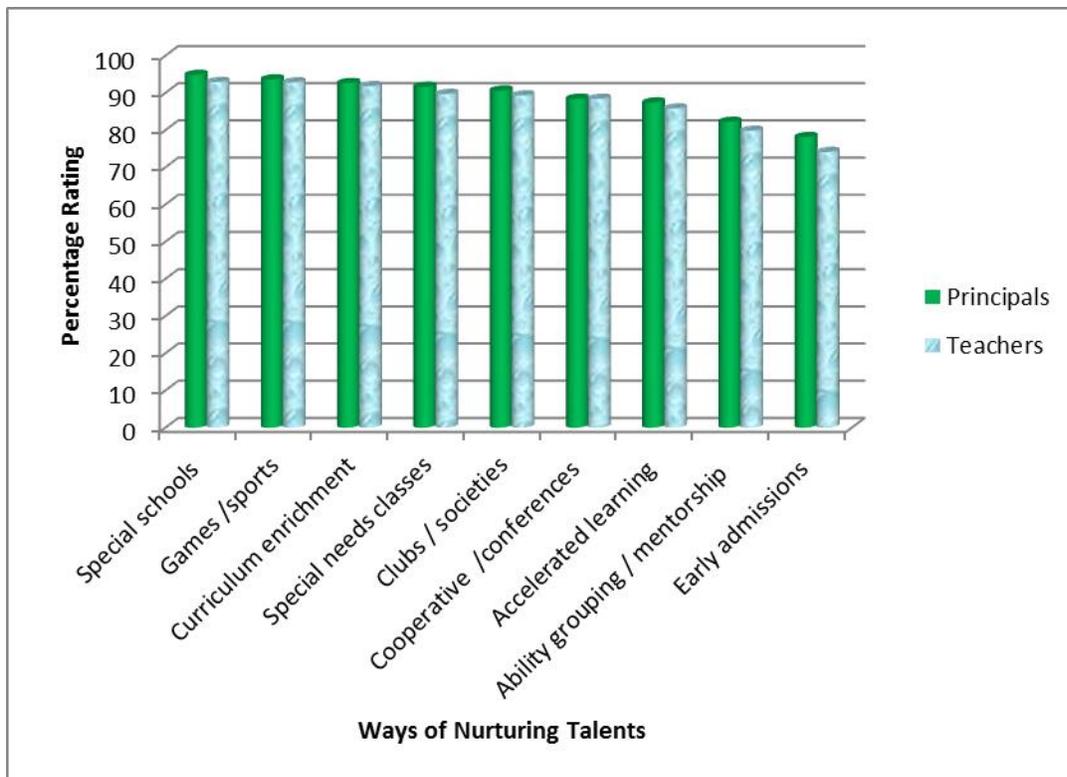


Figure 4.40: TVET Principals and Lecturers Responses on Ways of Nurturing Talents of Students

The findings in Figure 4.40 show that the highest rated way of nurturing talents among students by both lecturers (92.8%) and principals (94.8%) is establishment of special schools for the gifted and talented students. The least rated strategy for nurturing talents among students is early admission to schools which is rated at 78.1% by principals and 74.1% by lecturers. Games and sports are rated by principals at 93.6%. Similarly the students, student leaders and key informants mentioned clubs, curriculum enrichment, games and sports can be used to nurture talents. A parent and some students said:

Parent: 4K clubs in schools where members do farming, they grow tomatoes, Sukuma wiki, so from there, the child goes out with skills to use at home, but these things are all gone. There were chicken bandas, others keeping cattle, so you see the 4K club is always there, others are selling milk, eggs, the child leaves the school with the talent, he/she goes to use it at homes, **PA- FGD –TTIP- UKU- KWA).**

Students: By coming up with clubs and going to music festival thus enabling them to nurture their talents **(CSL - TTIP - WOT - MAK).**

Student: on the side of talents, those with different talents have been forgotten. Why I say this, when you look at the Institute timetable it's just full of subjects from 8am to 5pm, then these people are rarely recognized. They should be allocated time and their own class. **(STTI- TTIP-RTI- UG).**

Student: Talents should be given more concentration... time table is set from 8am to 6pm so there is no time to go and nurture your talents so the school program should be adjusted to allow an hour to nurture

talents just like other lessons...creating time for them...allocation of funds to buy items. (STTI- TTIPRTI -UG).

Student: I think those people who have talents, they must be, they must be given a chance to show off their talents (CS - FGD - TTIP - WOT - MAK)

KI: Yea... we have those things like in my school me I learnt in Art and Craft most in fact I was the best student by that time. so...by the moment I came into the welding sector it wasn't hard for me and because I got somebody who had learnt a lot they still injected some ideas in me easily. (WEL-INF-NAR)

The students from a special needs institute for the blind expressed the view that they want to be taught subjects that can make them identify their talents such as, music, physical education, which supports the suggestion by lecturers and principals that curriculum enrichment can be utilized to develop talents.

Students: Let me say, for example in the curriculum if there can be physical lesson, such subjects can help in nurturing the talents. (STTI- TTIP-MAC- MAC).

Students suggested that education should not only concentrate on certificates but should recognize talents and provide activities for their development.

Student: It should not be all about the certificate if someone has a different gift say like practical skill it should be recognized. Education should be viewed on both ways theoretical and practicals. They should evaluate both sides (CS -FGD - ISTP -NIST-NYA).

Student: I think those people who have talents, they must be, they must be given a chance to show off their talents now for example (CS - FGD - TTIP - WOT - MAK) .

Student: To me, the exhibitions are introduced. People will show off their capabilities in various talents. It will enable various people to boost their talents. (CS - FGD - TTIP - WOT - MAK).

Student: Remember, and each here in school, members have activities like maybe, mmhh, talent shows. Yaah. I think those shows they can now, that person who has talent, can show off his talent there, and maybe it can be recognized (CS - FGD - TTIP - WOT - MAK).

In addition the TVET students, student leaders and key informants suggest the following as ways of nurturing talents among the learners; provision of facilities such as balls, playing grounds, referees, provision of finance, appreciation, exhibitions every term, exposing learners to activities where talents can be identified like talent shows, set apart sports days, time for practice and use of mentors. The following are some excerpts supporting these.

Student: And if somebody is, sasa, an example is good in playing soccer; he can get a sponsor in the same (CSL - TTIP - WOT - MAK).

Students: And if one knows he is more talented to something, he has to make sure, he has to find something that is going to expose him or her to the society so that none notices, and if one notices it will boost him to another area. So, you see, if he is boosted, one will notice this is more talented and will get a chance to have a job. (CS -TTIP- WOT- MAK).

A key informant indicated that apprenticeship can be utilized to nurturing talents among the students.

KI: Giving my own example somebody can think I have learnt a lot but I only dropped out of school when I did my class eight and after that I just ventured into the Jua-Kali sector whereby my cousin played a major role in giving me some instructions that is, giving me knowledge then along the way I came and met these architectural people engineers who built me much on my work so...so that is how I prospered in this job (**KI: WEL-INF-NAR**).

The students in addition called upon the county government to get involved in sensitization of talent in the communities and build schools where learners with talents can go and study so as to nurture their talents.

Student: Then, they should be giving people to encourage the, people to be sent from the county from government and also from the country government to be sent to the communities and talk to those people now, who have their talents (**CS - FGD - TTIP - WOT - MAK**).

Students: I require the government to introduce a talent school, where those students who are talented to be schooling there and be provided with all the requirements. (**STTI -TTIPEGE -NYAM**).

The findings indicate that TVET students need to be provided with a wide variety of platforms or forums which can be used for identification of talents. Strategies which are suggested by respondents for the purposes of nurturing talents include establishment of talent academies, provision of adequate resources in institutions, creation of incubation centers for innovations, engaging learners in co-curricular activities such as science fairs, handcrafts exhibitions, IT demonstrations, sports, games, and drama and music festivals.

The findings concur with Sessional paper No 2 of 2015 that expounds on the need to develop and nurture talents for global competitiveness, while the Taskforce Report of 2010 mentions identification and advancement of talents among core curriculum competencies. The findings are also in line with the curriculum policy (2015) which indicates that since the curriculum as it is does not give linkage of talents to development of careers, further education or training, there is need to address the aspects of identifying, nurturing and developing talents among learners .The findings are similar to the Ministry of Education Science and Technology Strategic Plan 2013-2017 that advocates for sports and recreation facilities that provide the youth with an opportunity to socialize and spend their time productively, strengthening and developing their character and talents. The findings concur with the National Youth Situation Analysis Report of

2009 which recommended the need for resource centers where the youth could spend time to gain useful skills and develop their talents such as sports, music and art.

4.2.8 TVET Assessment

Assessment is a means of measuring learning outcomes. Assessment is an important component in the teaching and learning process, since it is the basis of evaluating the effectiveness of the implementation process of a curriculum. Teachers should use various modes of assessment to determine performance as well as identify gaps. The study sought to find out the mode of assessment that should be used in TVET. The TVET lecturers and principals were requested to indicate the extent to which some identified assessment modes should be used in TVET in a five-point Likert Scale. They were required to indicate their choices by selecting one of the choices given as N for Not at all, VL for Very little extent, NS for not sure, S for Some extent and G for Great extent. The responses were clustered into formative and summative modes of assessment. Their responses are presented in Figure 4.41 and 4.42.

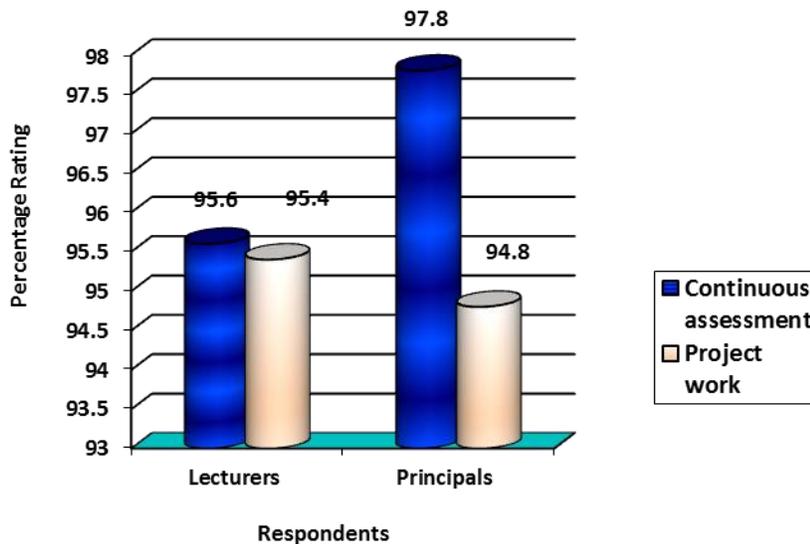


Figure 4.41: Rating of Formative Assessment Modes by TVET Lecturers and Principals

The findings in Figure 4.41 Shows that continuous assessment mode is rated highest by the principals (97.8%) and lecturers (95.6%). This was followed closely by project work mode of assessment rated by lecturers at 95.4% and at 94.8% by the principals.

The findings on summative assessment mode are presented in Figure 4.42

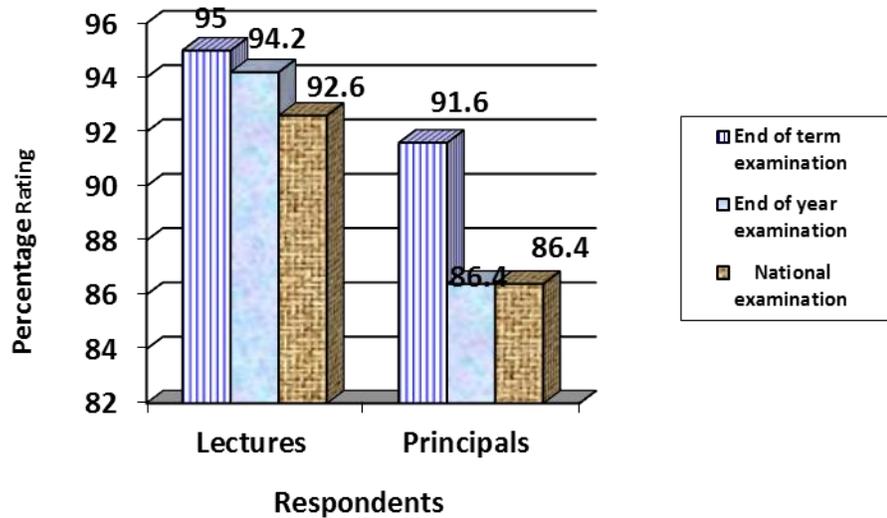


Figure 4.42: Rating of Summative Assessment Modes by TVET Lecturers and Principals

Figure 4.42 shows that end of term assessment is rated the highest mode of assessment by both the lecturers (95%) and principals (91.6%). National examinations is the least rated form of assessment as rated by the lecturers (92.6%) and Principals (86.4%). The key informants, students and student leaders likewise identified similar forms of assessment methods, continuous assessments and project to be used in TVET. However the students and student leaders said the CATs should run across all academic years with the final marks contributing to final grade which would lead to elimination of cheating in KNEC exams and loss of marks due to irregularities. The following excerpts are in support of this.

SL: CAT or the general exams to be considered what the colleges are learning so that exams don't give you a hard time and you may have the issue of mwakenya (SL- TTIP- BUM- BUS)

Student: You also lose all grades if there was some irregularities in one subject. Why lose say seven units because of only one? (CS – FGD – ISTP - NIST - NYA)

In addition the key informants and students advocated for summative assessment to be administered externally at the end of TVET level because it's used for selection of students, to the university and for joining the job market.

KI: Summative assessment at the end of every level...has never been convinced that we should have a system without a summative assessment. These examinations are used for selection; they are used to join the job market... But if we have no examination to determine who is slightly better than who. Then it's only the children of the rich that will go (**KI-TCD-KWA**).

Student: National examination should persist; people do secure certificate to show that they have completed that level... the same certificate, they can use to secure jobs. So if, the continuous assessment tests is introduced, will there be those certificates to be credited to the various students at various continuous assessment tests or it will be just doing continues assessment tests and then it persists? (**CS - FGD - TTIP - WOT - MAK**).

The students in addition suggested that the KNEC exam should only test what is covered in the syllabus and that there be practical exams for technical subjects.

Student: I think marking of KNEC exams should aim at only testing what is in course outline. Technical should not be assessed using exam papers only. The exams should also be to encourage not discourage. (**CS – FGD – YPP - NAI - BUN**).

The students emphasized that they should not pay for re- sitting of the exams that they have failed and that incase of irregularities they should re-sit only the failed subjects.

Student: We should not pay for that exam those we have failed and we had paid for them at the first time. So it becomes hard and some drop out. It's as if they are looking for a way to push you out (**CS – FGD – ISTP - NIST - NYA**).

Student: You also lose all grades if there were some irregularities in one subject. Why lose say seven units because of only one? (**CS – FGD – ISTP - NIST - NYA**).

Student: After doing six courses and If I pass 2, I get referred if I fail 3, I am supposed to repeat everything. ... they should change that system and give the certificate for those I have passed. Because maybe I was sponsored (**CS – FGD – ISTP - NIST - NYA**).

The students were of the view that grade test or board mode of assessment is more relevant at TVET level and proposed it to be used instead of the Kenya National Examination mode of assessment.

Student: Trade Test is good (**CS – FGD – YPP - NAI - BUN**).

Student: Like Institutions, there should be “grade test exams”. Because there are those who are not good in KNEC Exams but are in singing, computer programmes and even building but not in exams. When it comes to exam papers he can't do anything (**CS – FGD – YPP - NAI - BUN**).

Student: when we do the board exam there is no need for doing national exam again... so we should just do board exams. (**STTI- TTIPRTI -UG**).

Student: for me Kenya national examination council I don't see it's meaning because after finishing my revision here the certificate will not help me without getting the grade license, so for me I see no need for doing national examination. .. (STTI- TTIPRTI -UG).

The students urged that TVET exams should include practical examination and not only test theory work.

Student: I think marking of KNEC exams should aim at only testing what is in course outline. Technical should not be assessed using exam papers only. The exams should also be to encourage not discourage (CS – FGD – YPP - NAI- BUN).

The students voiced the need for practical examinations to be introduced in electrical engineering.

Student: Examinations should remain but for something like electrical engineering we should add something like diploma because it has no practical, and out of this institution we have to work practically... (STTI- TTIPRTI –UG)

The findings place a lot of emphasis on practical assessment since it ensures the students acquire adequate skills on completion of their training course and are ready for the competitive job market. The emphasis put on practical assessment implies that assessment methods need not only test the cognitive domain but also expose the learners to a lot of practical work. Assessment should not only be based on paper and pen which are too narrow but be based on practical work. From the findings, formative assessment should be more emphasized than summative assessment in the envisaged TVET curriculum. These findings are in line with a study carried out by UNESCO which established that in formative assessment the teacher is able to understand how students are learning, identify problems that the students may face in the learning process and to use feedback to ensure that all have the opportunity to learn (UNESCO, IBE No. 15 – 2015)

The desire for formative assessment is in line with Kellagan and Greaney (2001) who advocate for regular, reliable and timely assessment as key to improving learning achievement and should therefore be a fundamental component of an effective teaching and learning process.

The need to have practical exams is similar to what happens in Rwanda where assessment focuses both on knowledge and understanding, aptitude and practical tests, attitudes and values (behavior) and generic competencies guided by specific indicators (Republic of Rwanda, 2015). The findings concur with Eric and Barbara (2008) in their study who pointed out that it is not about passing or failing a candidate and evidence collection is more than just setting a test. During teaching and learning process learners may be required to undertake a series of tasks for

assessment purposes such as assignments, projects, tests, exams or practical work. It is the sum of all these assessments that deems a learner to be competent or not.

In view of the challenges associated with summative examinations alone, it is apparent that respondents suggest a certain method of assessment that takes into account progressive tracking of learners' attainment and also providing a national comparison of learners' performance.

4.2.9 TVET Crosscutting Issues

Crosscutting issues are also known as emerging or pertinent issues that touch on a number of different aspects of the society that affect learners. This study sought to find out the crosscutting issues in the society that can be included in TVET curriculum. The lecturers and principals were requested to indicate the extent to which some specified crosscutting issues should be covered in TVET curriculum in a five-point Likert Scale. They were required to indicate their choices by selecting one of the choices given as N for Not at all, VL for Very little extent, NS for not sure, S for Some extent and G for Great extent. The responses are presented in Figure 4.43.

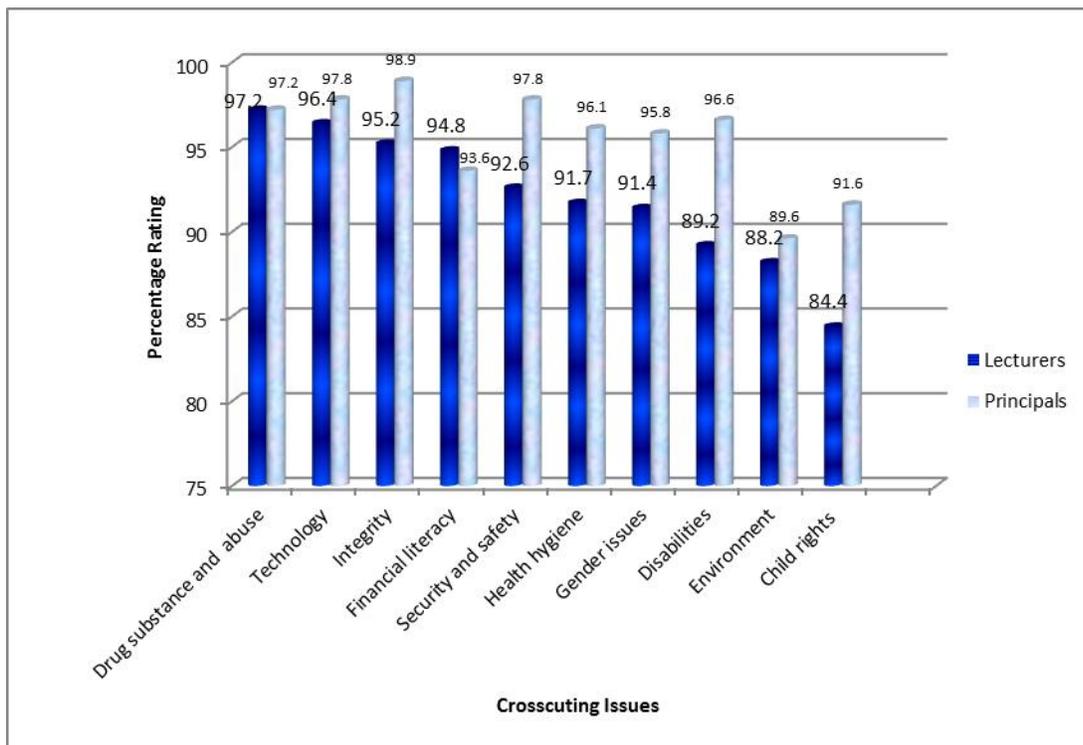


Figure 4.43: Rating of Crosscutting Issues for Emphasis in TVET Curriculum by Principals and Lecturers

Figure 4.43 shows that TVET principals rate the emphasis in TVET curriculum of integrity at 98.9 %, drug and substance abuse at 97.2%, and financial literacy at 93.6% .The least rated crosscutting issue for TVET curriculum by principals is environment at 89.60%.The lecturers rate the emphasis in TVET curriculum of integrity (95.2%), as the highest followed by drug and substance abuse at 97.2%, and financial literacy at 94.8.The least rated crosscutting issue for inclusion in TVET curriculum is child rights (84.4%) as indicated by the lecturers .

The students, student leaders and key informants similarly mentioned the same emerging issues like insecurity, drug and substance abuse, gender and environmental issues that are mentioned by the teachers and principals that should be included in TVET curriculum. Some of the statements they made are;

Student: when I first came to Bumbe I don't know what to do. Later I chose food and beverage ... I had that feeling that this course is for ladies. So something was telling me to quit but I went on and I made it. That believe was there when I went to attachment I realized it's not only for ladies. You just have to change your attitude (SL –TTIP- BUM -BUS).

Student: I think the person should be discouraged on taking drugs. The institution should take time like weekends to have a guidance and counseling session on drugs and other issues. And they bring many people from outside to talk about it (CS – FGD – ISTP - NIST - NYA).

Student: Environmentally, it is as results of noise pollution due to industries being built near schools which becomes a huge distracter (CSL -TTIP - WOT - MAK).

Student: Environmental issues like air pollution e.g. smoke, noise, dumping, and cutting down of trees. (CSL –TTIP-UKU-KWA).

Student: Security is the cancer right now, it's the most dangerous disease as per now. (CSL –TTIP- SIN-KAK).

Student: insecurity...we should have conducive environment to learn. (STTI- TTIPRTI -UG)

In addition the students stated that the best way of dealing with insecurity is by being role models and having police posts in learning institutions.

Student: For securities I think there should police post in school with at least three policemen (CS – FGD – ISTP - NIST - NYA).

Student: We should be role models on our own. To defend our own, to safeguard the school. If we, if we leak the secret of the school, you see to the outsiders, those villagers and those Alshababs will troop into our school and attach if they know our secrets. If they know where the fence is not well tight, if (CS - FGD - TTIP - WOT - MAK).

The teachers, principals and student are all in agreement that technology is a crosscutting issue that should be emphasized in the TVET curriculum In addition; the students mentioned that

modern technology in form of mobile phones has made students engage in sexual immoralities and led to lack of concentration in studies.

Student: Technological there is lack of concentration in studies thus students should be taught on how to use the technology instead of using their phones to watch pornography (CSL -TTIP - WOT - MAK).

Student: The technology sometimes lowers dignity of people like mobile phones. When I go to internet I can be able to access everything worldwide. I am student but because I am accessing all these things I will be influenced to do what I am doing. They should prohibit those things to learners. We need to control internet (CS – FGD – ISTP - NIST - NYA).

The parents and key informants mentioned corruption and prostitution as crosscutting issues that should be emphasized in TVET curriculum.

KI-when you listen to people talk is like corruption has become like our culture and when you talk about culture, culture is like something that is practiced by all people in the whatever community you are talking about. So corruption in our case has become a way of life ok, and then you know even if it's a way of life you know what it means so I think whether invaded in another curriculum it is an area which needs to be tackled by any means. (KI-REG-LAU).

Parent: Everybody is struggling to get a phone, and one has no money, he/she will use any means to get one this brings about theft, prostitution because they want the best but they cannot afford (PA FGD TTI UKU KWA).

The students identified career counseling as an emerging issue in the society which called for the need to have it included in TVET curriculum.

Student: Advising students on career to take and counseling them...so that the students can know the career requirements by the time they reach form four. (STTI- TTIPRTI-UG).

From these findings, it is evident that there are many issues that affect the learning process of a learner and therefore they need to be included in the TVET curriculum. The crosscutting issues suggested to be included in the TVET curriculum by respondents are similar to those in the report on assessment of mainstreaming of emerging issues in schools curricula (KICD, 2014) and the Sessional paper No 2 of 2015 which emphasize that learners are affected by issues ranging from sexuality, drug and substance abuse, media influence in these times of technological advancement, political and social scenarios (Republic of Kenya, 2015).

Similarly the findings concur with MoEST strategic plan 2013-2017 (MoE 2013) which indicates the emerging issues that affect education, include HIV and AIDS; poverty; hunger; conflict and emergencies, guidance and counseling and gender. The findings are also in line with the Constitution of Kenya 2010, which emphasizes the need for issues like integrity, child rights, environment and national security (GoK 2010).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

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

5.1 Teacher Education Summary

The lecturers and principals very highly rated these societal needs for inclusion in teacher education curriculum: patriotism, economic and industrial development, technological development, social development and environmental protection. The TTC trainees suggested that their course should prepare them to be able to develop a whole child who is able to fit well in the society. The key informants expressed the view that the current training of teachers does not provide teachers with adequate practical skills, therefore there is need for competent teachers who are able to identify learners' needs, offer guidance and counseling and have the ability to cope with different cultures. The students suggested that there is need to upgrade teacher education P1 certificate course to a diploma course and the entry requirements be raised to grade A.

The competences for inclusion in the teacher education curriculum that were rated very highly by the principals and lecturers are; problem solving, creativity, innovation and entrepreneurship, mentoring, networking, coaching, negotiation, planning, organization, coordination, reflection, critical thinking, interpersonal relationship, decision making, communication, collaboration, leadership and management. The key informants suggested that teacher education curriculum should cover skills on sensitivity and observation in order to train teachers on how to identify and nurture the diversity of learners and their learning needs.

The values for inclusion in teacher education curriculum are corruption, loyalty, self-awareness, peace, negotiation, co-existence, selflessness, respect, corruption, faithfulness, etiquette, respect, honesty, self-control, patience, integrity, patience, love, accountability, transparency, national unity, generosity, conflict resolution and cohesion.

The content /learning areas very highly rated by lecturers and principals for inclusion in teacher education curriculum are art and design, physical education, humanities, climate change, environment, hygiene and sanitation, entrepreneurship, business studies, home management and health and nutrition. The TTC student, parents and key informants identified the following content /learning areas; library science, child psychology, sexuality, education policies, child development ,teaching methodology, medicine, engineering, economics ,stress management, policies, Arabic language , computer technology , terrorism ,motivational speaking and guiding and counseling.

The resources required for competency based curriculum implementation in TTC institutions were found inadequate. These resources are art rooms, photographs, home science rooms, laboratories, models, libraries, charts, sports equipments, music rooms, agriculture farms, radio and TV. The TTC students and student leaders suggested to be supported by the government

in the provision of guidance and counseling teachers, motivational speakers, computers, library books, playgrounds, equipment for sports, laboratories, braille machines, sign language interpreters, teaching and learning resources, funds and classrooms.

The pedagogical approaches identified for competency based curriculum implementation include, discussions, brainstorming, simulations, role play, demonstrations, drills, nature walk experiments, projects, storytelling, experiential learning, dances, riddles, songs, reciting, dramatization, debate, field excursions and lecture method. Adopt child-centered approaches and pedagogies like Montessori which promote critical thinking, reasoning, reflection, creativity and problem solving.

The students, parents, key informants and student leaders identified the following talents: Singing, reading, drawing, creative arts, writing, football, swimming and drumming. Strategies which are suggested by respondents for the purposes of nurturing talents include establishment of talent academies, games and sports, special needs classes, clubs and societies, cooperative learning, academic conferences and competition among the schools. In addition they suggested accelerated learning and advanced placement, ability grouping and mentorship programs, provision of adequate resources, curriculum enrichment, co-curricular activities such as science fairs, exhibitions and provision of talented people .Individuals who excelled in talents should be used as role models to share their success stories with other students to motivate them on

importance of developing their talents, conducive environment for play and for performing their talents be provided and the government to network with schools and offer rewards to talented students .

The assessment modes identified for teacher education are continuous assessment, project work, end of term examination, end of the year examination and national examinations. Continuous assessment mode is rated as the highest mode of assessment by the principals and lecturers. The students said every subject should be examined practically. Assessment should include oral questions. The TTC students suggested that the teacher education national exam be conducted after each academic year. Students suggested that assessment in TTC's should mainly be in practical teaching and KNEC exams should be scraped.

The crosscutting issues identified for inclusion in teacher education curriculum are drug and substance abuse, integrity, financial literacy, security and safety, health and hygiene, gender, disabilities, environment, child rights, guidance and counseling and corruption.

5.2 TVET Summary

The lecturers and principals rated very highly these societal needs for inclusion in TVET curriculum: Patriotism, economic and industrial development, technological development, social development and environmental protection needs. The competences for inclusion in the TVET curriculum that were very highly rated by the principals and lecturers are; problem solving, creativity, innovation, entrepreneurship, mentoring, creativity, networking, coaching, negotiation ,planning, organization, coordination, reflection, critical thinking, interpersonal relationship, decision making, communication, collaboration, leadership and management.

The parents, students and key informants identified these competences for inclusion in TVET curriculum; poultry keeping, building, research, electrical engineering, automotive, catering, hotel management, social work, farming, music, community development, teaching, business, food and beverage, singing, sports, athletics, swimming, clothing, independent living skills, carpentry, cooking, masonry, tailoring and computer technology.

The values identified for inclusion in TVET curriculum are socialization, corruption, loyalty, self-awareness, peace, honesty, co-existence, respect, faithfulness, etiquette, respect, honesty, self-control, patience, integrity, patience, accountability and transparency.

The content /learning areas should include art and design, physical education, humanities, climate change, environmental, hygiene and sanitation, entrepreneurship, business studies, home management, health and nutrition , driving, poultry keeping, cattle rearing, carpentry, building, catering, food and beverage, hair dressing, dress making , beauty therapy, research, welding, automotive, electrical engineering, social work, community development, teaching, leadership, singing, healthy living, diseases, music, marketing, Geo Informatics System (system to support survey), structural engineering, and guidance and counseling.

Majority of the resources required for competency based curriculum implementation were found inadequate in TVET institutions. These resources are: art rooms, photographs, home science laboratories, models, library, charts, sports equipments, music rooms, classrooms, text books ,agriculture farms, syllabus, computers, books, library technicians, balls, pens, exercise books, text books, uniform, internet connectivity, electricity, television, GIS instruments, instructors, boarding facilities, local testing kits, Information science instruments, advanced reading materials, practical , funds, Wi-Fi, qualified teachers/instructors, radio, desks, sewing machines, laptop, modem, balls, and smart phones .Respondents suggested the TVET institutions would require support in provision of adequate resources such as stationeries, equipments, teachers ,infrastructure ,funds and loans for the needy students.

The pedagogical approaches identified for competency based curriculum implementation include; discussions, brainstorming, simulations, role play, demonstrations ,drills, nature walk, experiments, projects, storytelling, experiential learning, dances, riddles, songs ,reciting, dramatization, debate, field excursions, lecture method and use of resource persons .

The students, parents, key informants and student leaders identified the talents that TVET students have are Football, netball, athletics, drama, karate, dancing, swimming, singing, modeling, art and design, poetry, rugby, hockey and comedy Strategies which were suggested by respondents for nurturing talents include; establishment of talent academies, games and sports,

special needs classes, clubs and societies, cooperative learning, academic conferences and competition among the schools, accelerated learning , advanced placement, ability grouping, mentorship programs, provision of adequate resources, curriculum enrichment, co-curricular activities such as science fairs, exhibitions and IT demonstrations. Other strategies suggested were provision of facilities such as balls, playing grounds, referees, provision of finance, appreciation, exhibitions every term, exposing learners to activities where talents can be identified like talent shows, set apart sports days, time for practice, and county government to get involved in sensitization of talent in the communities.

The assessment modes identified in TVET are continuous assessment, project work, end of term examination and end of year examination and national examinations. Continuous assessment mode is rated highest mode by the principals and lecturers. Students and student leaders said the CATs should run across all academic years with the final marks contributing to final grade. The students were of the view that grade test or board mode of assessment is more relevant at TVET level and proposed it to be used instead of the Kenya national examination mode of assessment. Students said TVET exams should include practical examinations.

The crosscutting issues identified for inclusion in TVET curriculum are drug and substance abuse, integrity, financial literacy, security and safety, health hygiene, gender, disabilities, environment, child rights, guidance and counseling, corruption and prostitution. The students mentioned that modern technology in form of mobile phones had made them engage in sexual immoralities and contributed to inadequate concentration in studies.

5.3 Teacher Education Conclusion

Teachers need to be equipped with the 21st century competences such as communication, collaboration, critical thinking and creativity, so as to be able to embrace the technological changes and innovations in the modern society and be able to impart relevant skills and competences among the learners effectively. Teacher education must prepare a competitive teacher that goes beyond traditional role of imparting knowledge skills and attitudes. Teacher education has to nurture the entrepreneurial, innovative, mentoring, networking, coaching, negotiation, planning, organization, coordination, reflection, interpersonal relationship, decision making, and leadership and management competences in teacher trainees.

Teacher education needs to make use of mixed teaching and learning approaches, which are experiential, learner centered, learner activity based and practical based. There is need for a longer period of teaching practice and marks awarded be raised. Assessment modes should include continuous assessment, project work, end of term examination, end of year examination and national examinations. Continuous assessment tests marks should contribute to the final grade in teacher education. The national assessment be conducted at the end of each academic year. There are inadequate teaching and learning resources in the teacher training institutions. The content/learning areas should include art and design, physical education, humanities, climate change, environmental, hygiene and sanitation, entrepreneurship, business studies, home management, health and nutrition, library science, child psychology, sexuality, education policies, child development, teaching methodology, economics, stress management, foreign languages, computer technology, terrorism, motivational speaking, guidance and counseling, values, talents identification and nurturing and crosscutting issues.

5.4 TVET Conclusion

It is important to transform training at tertiary level for it to be more practical-oriented. By doing so, trainees will be graduating from these institutions with the competencies that are required by the industry. During their training learners should be equipped with entrepreneurial, innovative, creativity, critical thinking, communication, planning, organization and managerial skills for them to be self-reliant and be in a position to create job opportunities. Competences such as driving, poultry keeping, cattle rearing, carpentry, building, catering, food and beverage, hair dressing, dress making, beauty therapy, research, welding, automotive, electrical engineering, social work, community development, teaching, leadership, singing, healthy living, marketing, structural engineering, and guidance and counseling should be included in TVET curriculum. In addition to this, trainers at this level should adopt 21st Century learning approaches which engage the learner and ensure that they acquire the competencies required by the industry so as to strengthen the training industrial links. This re-alignment is required due to technological advancement which relies entirely on ICT skills and digital literacy in general. This is envisaged to increase their employability and make them globally competitive. Another important aspect is

that relevant and appropriate strategies need to be put in place to ensure that learners' talents are identified and nurtured effectively.

There are inadequate teaching and learning resources in the TVET institution. The assess modes have to be transformed completely with the trend moving more towards formative assessment. This can be achieved by ensuring that assessment of learners is practical oriented and that it is carried out through out during the teaching and learning process. It is worth noting that marks from this assessment should contribute to the final scores of the trainees. Climate change, global warming, insecurity and radicalization are important aspects which TVET trainees should be made aware of in the attempt of conserving our environment and ensuring there is adequate security in our country and the world at large.

5.5 Recommendations

5.6 Teacher Education Recommendations

- The KNEC should include the continuous assessment tests marks in teacher education student final grade.
- KICD should include psychometrics skills in teacher education curriculum, which will enhance teacher skills in setting exams and avoid buying exams.
- KICD should include in teacher education curriculum competences in problem solving, creativity, innovation, entrepreneurship, mentoring, networking, coaching, negotiation, planning, organization, coordination, reflection, critical thinking, interpersonal relationship, decision making, communication, collaboration, leadership and management.
- KICD should include in teacher education curriculum content on art and design, physical education, humanities, agriculture, technology, vocational and technical subjects, values, climate change, environmental, hygiene and sanitation, home management, health and nutrition library science, child psychology, sexuality, child development, teaching methodology, economics, sexuality, stress management, foreign languages, computer technology, terrorism, crosscutting issues, talents and guiding and counseling.
- MoEST should reintroduce the Kenya school equipment scheme that will provide adequate resources to all public teacher training institutions.

- The government should train head teachers and teachers on competency based curriculum.
- MoEST should lengthen the teaching practice period and the marks awarded for it be raised.
- Talent academies should be established by MoEST where talented teachers can acquire skills on talents that they can impart on learners.
- MoEST should upgrade teacher education P1 certificate course to a diploma course

5.7 TVET Recommendations

- There is need for the National Government to increase the grants given to TVET institutions so as to enable them procure the necessary resources for teaching and learning.
- KNEC should increase flexibility in assessment by allowing multiple attempts and choice of when to be assessed, while expanding examination and testing methods to go beyond the written test for the purposes of covering more higher-order competences.
- KNEC needs to adopt assessment modes which strike a meaningful balance between formative and summative assessment.
- MoEST should train trainers on assessment modes to enable them assess the competence based curriculum effectively.
- Talent academies should be established by MoEST in conjunction with the National Government in every TVET institutions so as to nurture talents of their trainees.
- MoEST should consider grade test mode of assessment for TVET.
- KICD should include in TVET curriculum competences in, problem solving, creativity, innovation, entrepreneurship, mentoring, creativity, networking, coaching, negotiation ,planning, organization, coordination, reflection ,critical thinking ,interpersonal relationship, decision making, communication, collaboration, leadership, management, poultry keeping, building, research, electrical engineering, automotive, catering, hotel management, social work, farming, music, community

development, teaching, business, food and beverage, singing, sports, athletics, swimming, clothing, , carpentry, cooking, tailoring and computer technology.

- KICD should include in TVET curriculum content /learning areas on art and design, physical education, humanities, climate change, environmental, hygiene and sanitation, entrepreneurship, business studies, home management, health and nutrition, driving, poultry keeping, cattle rearing, carpentry, building, catering, food and beverage, hair dressing, dress making, beauty therapy, welding, automotive, electrical engineering, social work, community development, teaching, leadership, singing, healthy living, diseases, marketing, Geo Informatics System, structural engineering, guidance and counseling, values, crosscutting issue and talents nurturing.

REFERENCES

- Barrow, M. (2013). Woodland Resources. Retrieved June 7, 2014, from Mandy Barrow Woodlands Resources: www.mandybarrow.com
- Browder, Diane M. (2001): Curriculum and assessment for students with moderate and severe disabilities. The Gullford press.
- Buhere K. (2016) why textbooks matter in Education. Wednesday, March 9, 2016 Colangel o& G. A. Davis (Eds), Handbook of Gifted Education 9pp 81-96).
- Department for Education and Children's Services, S. A. (1994). *Understanding giftedness: a guide to policy implementation*.
- Drew, C., Hardman, M. & Hosp, J., (2008). Designing and conducting research in education. California, USA: Sage publication inc.
- Evan, T., Haughey, M. & Murphy, D. (2008). International Handbook of distance education. Bingley, UK: Emerald Group Publishing Ltd.
- Exchange, S. A. (2012). High School Exchange in South Africa. Retrieved June 7, 2014, from Experience a High School Exchange in South Africa: www.jcr.co.za/sastudent.htm
- Farrant, J. S., (2004). Principles and practice of education. (18thed). England, UK: Pearson education Ltd.
- Gachathi, P. J. (1976). Report of the National Committee on Educational Objectives and Policies, Ministry of Education. Nairobi: Government Printer
- Gagné's F. (2003) Differentiated Model of Giftedness and Talent (DMGT)
- GoK, (2007). Kenya Vision 2010. Ministry of Planning and National Development and the National Economic and Social Council (NESC), Office of the President. Nairobi. Kenya. Government Press.
- Huitt, W. (1996) Measurement and Evaluation: Criterion-versus norm-referenced testing. Educational Psychology Interactive. Valdosta, GA: Valdosta State University. Retrieved from <http://www.edpsycinteractive.org/topics/measval/crnoref/html/>
- Japan MOFA. (2014). Web Japan MOFA. Retrieved June 6, 2014, from Schools-Explore Japan-Kids Web Japan-Web Japan: <http://web-japan.org>
- Kabiru, M. (1997). The status of Early Childhood Education in Kenya. Nairobi: NACEC

- Kang'ethe, R. W. (2004). *A Comparative Study of Measures used in the identification of Gifted and Talented children in Two Provinces of Kenya*. Nairobi. Unpublished Ph.D Thesis. Kenyatta University.
- Kang'ethe, R. W. & Mugo J. (2010). "Gifted and Talented Children and Policy in Kenya: A Ride through Post Independence History". A paper presented during the National Conference of The Gifted and talented in Kenya. Kenyatta University (July 27th to 30th July 2010).
- Kellagan T. and Greany V. (2001). *Using Assessment to improve quality of education*. UNESCO. International Institute for Educational Planning, Paris
- Kenya Institute of Education Handbook: Silver Jubilee Edition; (1957-1982)
- Keteku, N. W. (2008). Education Reform Ghana. Retrieved June 7, 2014, from Education Reform in Ghana: Senior Secondary School: www.bibl.u-szeged.hu/oseas.../ghana.htm
- KICD (2013). *Rapid Assessment Of Utilization Of Educational Resources (Prototypes) In Learning Institutions In Kenya*. Nairobi. Kenya.
- KIE (1990). *Formative Evaluation of the Secondary Education Curriculum*. KIE Research Report Series No.22. Nairobi. Kenya
- KIE (2010a): *Summative Evaluation of the Primary School Education Curriculum* Nairobi. Kenya
- KIE (2010b). *Summative Evaluation of the secondary School Education Curriculum*. Nairobi. Kenya
- Kinyua, P. M. (2014). *Exploring Giftedness among Learners with juvenile Delinquency in elected Rehabilitation schools In Kenya*. Nairobi. Unpublished Ph.D Thesis. Kenyatta University.
- Kochung, E, (2003). *A Report of the task Force on special Needs education. Appraisal Exercise Republic of Kenya*. Ministry of Education.
- Koech, D. K. (1999). *Totally Integrated Quality Education (TIQET)*. Nairobi,
- Ministry of Education .(1997). *Towards Thinking Schools*, Singapore
- Ministry of Education Australia, (2013). *The Australian Curriculum*. Retrieved June 7, 2014, from The Australian Curriculum v6.0.: www.australiancurriculum.edu.au
- Ministry of Education Malasia (2014). *Malaysian Guide*. Retrieved June 7, 2014, from Malaysia Guide: Public, State Education in Malaysia.: www.justlanded.com
- MoEST (2012): *Sessional Paper No 14 of 2012: Reforming education and Training Sector in Kenya*
- Mugo and Asigo (2015). *From Assessment of Learning to Assessment for Learning in Kenya's primary Education post 2015*. A policy brief by the Learning Outcome Network.

- NEXT (2010). Japan Ministry of Education, Culture, Sports Science and Technology, Education Reform for the 21st Century, National Council of Education Reform and Process of its Reform, Tokyo, Japan.
- Republic of Kenya (2009). *National Youth Situation Analysis Report* . Government Press. Nairobi.
- Republic of Kenya (2010). Task force report on the re-alignment of the education sector to the constitution of Kenya 2010: towards a globally competitive quality education for sustainable development
- Republic of Kenya (2011). A teacher competency framework for the Kenya primary school teacher. Ministry of education
- Republic of Kenya. (2007). Government of Kenya, Vision 2030. Nairobi: Government Printers.
- Richert, E.S. (1991). Rampant Problems and promising practices in identification. In N.
- Ross, A. (2000). Curriculum: Construction and Critique; masters classes in education series. New York: Routledge Falmer Garland inc.
- Saltery, D. (1989). Assessment in Schools. Basil Blackwall Ltd.
- Sifuna, D.N. and Karugu, A.M. (1988). Contemporary Issues in Education. Nairobi: Kenyatta University.
- Swaffield, S. (2008). unlocking Assessment, A David Fulton Book
- The Scottish Government (2009). Curriculum for excellence building the curriculum 4 skills for learning, skills for life and skills for work. Edinburgh: Scottish government
- Treadaway, J. (2003). Education for what? revisited. Paper presented at the SICHE Education Conference, Panatina, Honiara, 23-25 September, 2003.
- Twoli, N., Maundu, J., Muindi, D., Kiio, M, Kithinji, C., (2007). Instrumental Methods in Education, Kenya Institute of Education, Nairobi
- UNESCO-IBE (2015). Repositioning and Reconceptualizing the curriculum for effective realization of Sustainable development Goals Four, for Holistic
- Voogt, J & Roblin, N.P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. Journal of Curriculum Studies. Volume 44, Issue 3.
- Wanjala, G. and J. Malechwanzi (2016). “ Improving the Quality of Technical Education through International Standardization : the case of Coast Institute of Technology,

Kenya.” in Anzat I.H. and Yusuf B. Fast-forwarding Higher Education Institutions for Global Challenges: Perspectives and Approaches Springer Science Business Media : Singapore ISBN 973-981-287-603-4

Wanjala. G. and Peter O. Anyango (2015). “The Relationship Between Principals’ Management of Curriculum and KCSE Performance in Selected Secondary Schools in Migori District, Kenya.” In International Open Access Journal Volume 1 – 3 , 2015. Pp. 1 - 8. ISSN : 2449 – 1608. <http://www.weberpub.org/weris.htm>

Wanjala G. and S.B. Luchu, “Factors Influencing Implementation of the Integrated English Curriculum in Public Secondary Schools in Kanduyi Division, Bungoma South District, Kenya.” In The Fountain, Journal for Educational Research, Vol.4 No.1, 2010 Pp. 66-78 , ISSN 2079 - 3383 .

Wedell, M. (2009). Planning for Educational Change. Putting People and their Contexts First. Continuum International Publishing Group. London.

Instruments

RA Sr No.- -----



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

NEEDS ASSESSMENT FOR TERTIARY LEVEL

TT College Principals

QUESTIONNAIRE

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT
P.O BOX 30231- 00100
NAIROBI
TEL: 3749900-9
EMAIL: info @kicd.ac.ke
www.kicd.ac.ke

September, 2015

Introduction

Kenya Institute of Curriculum Development (KICD) is carrying out a Needs Assessment Survey for curriculum reform. The vision of the reform is “*Nurturing Every Learner’s Potential*” in Kenya to achieve the dictates of Vision 2030, the Constitution 2010, the 21st Century skills, the East African Community Treaty, among other policy guidelines.

The emphasis of the curriculum reform is to nurture the learner’s potential in a holistic and integrated manner, while producing an individual who is intellectually, emotionally and physically balanced. The envisaged curriculum reform will emphasize competency based learning

This questionnaire is designed to obtain information from key stakeholders to guide the reform of the curriculum. The information you provide will be treated in strict confidence and used for this purpose only. Kindly respond to all questions.

PART I: BACKGROUND INFORMATION

1. County.....

2. Gender

Male

Female

3. Age group

a) 25-30

b) 31-35

c) 35-40

d) More than 40

4. Duration of service in years

a. 5-10

b. 11-20

c. 20-30

d. Above 30

5. Employer

- a) TSC
- b) BOG
- c) Other

6. Status of College

- Public
- Private

7. Location

- Rural
- Urban

8. Category of the College

- Boarding
- Day
- Day and boarding

9. College category

- Boys only
- Girls only
- Mixed

10. Does your school have any learners with special learning needs?

- Yes
- No

11. If 'Yes', specify the category (or categories) of the special needs.

.....

Part II: Societal needs

12. To what extent should the TT curriculum promote the following societal needs? KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent						
Societal needs to be emphasized		N	VL	NS	S	G
a)	Nationalism					
b)	Patriotism					

c)	National unity					
d)	Economic development					
e)	Industrial development					
f)	Technological development					
g)	Social development					
h)	International consciousness					
i)	environmental protection					
j)	Respect of Kenya varied cultures					
k)	Self-fulfillment					
l)	Social equality					
m)	Social responsibility					
n)	Sound morals					
o)	Good health					
p)	Information, Communication and Technology					

Others (specify)

Competencies

13. To what extent should the following competencies be emphasized in the TT curriculum? KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent						
	Competencies	N	VL	NS	S	G
a)	Creativity					
b)	Analysis					
c)	Organizing					
d)	Decision making					
e)	Innovation					
f)	Networking					
g)	Collaboration					
h)	Mentorship					
i)	Coaching					
j)	Entrepreneurship					
k)	Management					
l)	Communication					
m)	Planning					

n)	Coordination					
o)	Negotiation					
p)	Research					
q)	Reflection					
r)	Critical thinking					
s)	Problem solving					
t)	Leadership					
u)	Interpersonal relationship					

Others (specify)

Learning areas

	14. To what extent do you think the following learning areas should be emphasized in the TT curriculum? KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent					
		N	VL	NS	S	G
a)	Fine Arts					
b)	Vocational and technical					
c)	Design					
d)	Technology					
e)	Physical education					
f)	Health and nutrition					
g)	Hygiene and sanitation					
h)	Environment					
i)	Mathematics					
j)	Languages					
k)	Sciences					
l)	Social cultural values					
m)	Humanities					
n)	Entrepreneurship					
o)	Agriculture					

Others (specify)

Learning Approaches

15. How often should the following teaching / learning approaches be used in delivering the TT curriculum? Tick in the appropriate box.				
KEY: N = never R = rarely A = always.				
		N	R	A
A	Brainstorming			
B	Discussion			
C	Experiment			
D	Debate			
E	Demonstration			
F	Dramatization			
G	Field Excursion /study			
H	Experiential learning			
J	Simulations			
K	Projects			
L	Thematic approach			
M	Drills			
N	Story telling			
O	Lecture			
P	Nature walk			
Q	Role Play			
R	Reciting			
S	Riddles			
T	Songs			
U	Dances			

Others (specify)

Assessment

16. To what extent should the following forms of assessment contribute to effective measurement of learners achievements at TT level?

	KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent					
		N	VL	NS	S	G
a)	Continuous assessment					
b)	End of the term					
c)	End of year examination					
d)	National examination					
e)	Project					

Others (specify)

Nurturing learner potential and talents

	17. To what extent should the following strategies be used to nurture talents among TT learners? KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent					
		N	VL	NS	S	G
a	Special classes					
b	Accelerated learning					
c	Cooperative learning					
d	Special schools for gifted and talented					
e	Early admissions to schools					
g	Advanced placement					
h	Ability grouping					
j	Mentorship programs					
k	Curriculum enrichment					
m	Development of assessment tools					
n	Competition among schools					
o	Holding academic conferences					
p	Clubs and societies					
q	Co-curricular activities					

Others (specify)

Cross- cutting issues

18. To what extent should the following issues be addressed through the TT curriculum?						
KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent						
Cross-cutting issues		N	VL	NS	S	G
a)	Gender issues					
b)	Good governance					
c)	Integrity					
d)	Drug and substance abuse					
e)	P Disabilities					
f)	Sexuality education					
g)	HIV and AIDS					
h)	Childs rights					
i)	Health education					
j)	Guidance and counseling services					
k)	Disaster risk reduction management					
l)	Technology					
m)	Security and safety					
n)	Environment					
o)	Climate change					
p)	Health and hygiene					
q)	Financial literacy					

Others (specify)-----

19. Suggest other ways of improving the TT curriculum

Thank you

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

NEEDS ASSESSMENT SURVEY FOR TERTIARY LEVEL CURRICULUM

Student Council/ Government

INTERVIEW SCHEDULE

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT
P.O BOX 30231- 00100
NAIROBI
TEL: 3749900-9
email: info @kicd.ac.ke
www.kicd.ac.ke

January 2016

Introduction:

Kenya Institute of Curriculum Development (KICD) is carrying out a Needs Assessment Survey for curriculum reform. This interview is aimed at obtaining information from key stakeholders to guide the reform of the curriculum. The information you provide will be treated with confidentiality and used for this purpose only.

Background Information

Position in the student council

.....

Sub- county

County.....

Level of Institution

Primary Secondary TTC TTI

Sex Male Female

Needs in School Curriculum

1. What does Kenya need for better development? (Probe for social, economic, political and technological improvements)

2. What should education achieve for your county?

Competencies

3. What should learners acquire by the time they leave school/ college (Probe for abilities, values & attitudes)

Abilities-----

Values-----

Attitudes-----

Learning/Activity Areas

- 4. What should be learnt in Primary/Secondary school/ college?

(Probe for knowledge and information to be covered)

Primary-----

Secondary -----

College-----

Resources

- 5. How can children be supported to learn better?

(Probe for resources, inclusivity and any other)

Resources-----

Inclusivity-----

Identification of talents-----

Nurturing (development) of talents -----

Assessment

- 6. What is the best way of finding out how well children have learnt? (Probe for continuous, end of level exams e.g. KCPE & KCSE)

Talents

- 7. How can children be supported to develop their talents in school? (Probe for ways and means of identification and nurturing/ development)

Contemporary and Emerging Issues

- 8. What issues that affect our society should be addressed in school/ college?(Probe for social, physical, emotional, ethical, technological, environmental issues etc)
- 9. How should education provide a solution to these social issues?
- 10. What other comments can you make to improve education in Kenya?

Thank You

RA Sr No.-



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

**NEEDS ASSESSMENT FOR TERTIARY LEVEL CURRICULUM
REFORM**

TTC Lecturer Questionnaire

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT
P.O BOX 30231- 00100
NAIROBI
TEL: 3749900-9
EMAIL: info @kicd.ac.ke
www.kicd.ac.ke

September, 2015

INTRODUCTION

Kenya Institute of Curriculum Development (KICD) is carrying out a Needs Assessment Survey for curriculum reform. The vision of the reform is to “*Nurture every learner’s potential*”. The emphasis of this vision is to nurture learners’ potential in a holistic and integrated manner, while producing an individual who is intellectually, emotionally and physically balanced.

This questionnaire is designed to obtain information from key stakeholders to guide the reform of the curriculum. The information you provide will be treated in strict confidence and used for this purpose only. Kindly respond to all questions by putting a tick or filling in the blank spaces provided.

Part I: Background Information.

12. County.....

13. Sub county.....

14. Gender

Male

Female

15. Age group

- | | |
|----|----------|
| e) | 20-30 |
| f) | 31-40 |
| g) | 41-50 |
| h) | Above 50 |

16. Employer

- a) TSC
- b) BOM
- c) Other

17. Status of College

Public

Private

LocationRural Urban **18. Nature of the college**Boarding Day Day and boarding **19. College category**Boys only Girls only Mixed **Part II: Societal needs**

10. To what extent should the TT curriculum promote the following societal needs ?		KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent				
societal needs to be emphasized		N	VL	NS	S	G
q)	Nationalism					
r)	Patriotism					
s)	National unity					
t)	Economic development					
u)	Industrial development					
v)	Technological development					
w)	Social development					
x)	International consciousness					
y)	environmental protection					
z)	Respect of Kenya varied cultures					
aa)	Self fulfillment					
bb)	Social equality					
cc)	Social responsibility					
dd)	Sound morals					
ee)	Good health					

ff)	Information, communication and Technology					
-----	---	--	--	--	--	--

Others (specify)

Competencies

	11.To what extent should the following competencies be emphasized in the TT level curriculum? KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent					
	Competencies	N	VL	NS	S	G
v)	Creativity					
w)	Analysis					
x)	Organizing					
y)	Decision making					
z)	Innovation					
aa)	Networking					
bb)	Collaboration					
cc)	Mentorship					
dd)	Coaching					
ee)	Entrepreneurship					
ff)	Management					
gg)	Communication					
hh)	Planning					
ii)	Coordination					
jj)	Negotiation					
kk)	Research					
ll)	Reflection					
mm)	Critical thinking					
nn)	Problem solving					
oo)	Leadership					
pp)	Interpersonal relationship					

Others (specify)

Learning areas

	12.To what extent do you think the following learning areas should be emphasized in the
--	---

TT level curriculum ?		KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent				
		N	VL	NS	S	G
p)	Fine Arts					
q)	Vocational and technical					
r)	Design					
s)	Technology					
t)	Physical education					
u)	Health education					
v)	Mathematics					
w)	Languages					
x)	Sciences					
y)	Society					
z)	Environment					
aa)	Humanities					
bb)	Health and nutrition					
cc)	Hygiene and sanitation					
dd)	Entrepreneurship					

Others (specify)

Learning Approaches

13. How often should the following teaching / learning approaches be used in delivering the TT curriculum? Tick in the appropriate box.		KEY: N=never. R = rarely A=always		
		N	R	A
a	Brainstorming			
b	Discussion			
c	Experiment			
d	Debate			
e	Demonstration			
f	Dramatization			
g	Field Excursion /study			
h	Experiential learning			
i	Simulations			
j	Projects			

k	Thematic approach			
l	Drills			
m	Story telling			
n	Lecture			
o	Nature walk			
p	Role Play			
q	Reciting			
r	Riddles			
s	Songs			
t	Dances			

Others (specify)

Assessment

14. To what extent should the following forms of assessment contribute to effective measurement of learners achievements in TTC? KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent						
		N	VL	NS	S	G
f)	Continuous assessment					
g)	End of the term					
h)	End of year examination					
i)	National examination					
j)	Project					

Others (specify)

Nurturing learners potential and talents

15. To what extent should the following strategies be used to nurture learners potential and talents? KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent						
		N	VL	NS	S	G
A	Special classes					
B	Accelerated learning					
C	Cooperative learning					
D	Special schools for gifted and talented					
E	Early admissions to schools					

G	Advanced placement					
H	Ability grouping					
I	Mentorship programs					
J	Curriculum enrichment					
K	Competition among schools					
L	Holding academic conferences					
M	Clubs and societies					
N	Games and sports					

Others (specify)

Cross- cutting issues

16. To what extent should the following issues be addressed in the TT curriculum?						
KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent						
Cross-cutting issues		N	VL	NS	S	G
r)	Gender issues					
s)	Good governance					
t)	Integrity					
u)	Drug and substance abuse					
v)	Disabilities					
w)	Sexuality education					
x)	HIV and AIDS					
y)	Childs rights					
z)	Life skills					
aa)	Health education					
bb)	Guidance and counseling services					
cc)	Disaster risk reduction management					
dd)	Security and safety					
ee)	Climate change					
ff)	Environment					
gg)	Hygiene					
hh)	Financial literacy					
ii)	Technology					

Others (specify)

17. Suggest other ways of improving the TT curriculum.

Thank you

RA Sr No.- -----



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

**NEEDS ASSESSMENT FOR TERTIARY LEVEL CURRICULUM
REFORM**

TTI Principals

QUESTIONNAIRE

**KENYA INSTITUTE OF CURRICULUM DEVELOPMENT
P.O BOX 30231- 00100
NAIROBI
TEL: 3749900-9
EMAIL: info @kicd.ac.ke
www.kicd.ac.ke**

September, 2015

Introduction

Kenya Institute of Curriculum Development (KICD) is carrying out a Needs Assessment Survey for curriculum reform. The vision of the reform is “*Nurturing Every Learner’s Potential*” in Kenya to achieve the dictates of Vision 2030, the Constitution 2010, the 21st Century skills, the East African Community Treaty, among other policy guidelines.

The emphasis of the curriculum reform is to nurture the learner’s potential in a holistic and integrated manner, while producing an individual who is intellectually, emotionally and physically balanced. The envisaged curriculum reform will emphasize competency based learning

This questionnaire is designed to obtain information from key stakeholders to guide the reform of the curriculum. The information you provide will be treated in strict confidence and used for this purpose only. Kindly respond to all questions.

PART I: BACKGROUND INFORMATION

20. County.....

21. Gender

Male

Female

22. Age group

- i) 25-30
- j) 31-35
- k) 35-40
- l) More than 40

23. Duration of service in years

- a. 5-10
- b. 11-20
- c. 20-30
- d. Above 30

24. Employer

- d) TSC
- e) BOM
- f) Others

25. Status of School

- Public
- Private

26. Location

- Rural
- Urban

27. Category of the School

- Boarding
- Day
- Day and boarding

28. School category

- Boys only
- Girls only
- Mixed

29. Does your school have any learners with special learning needs?

- Yes No

30. If 'Yes', specify the category (or categories) of the special needs.

.....

Part II: Societal needs

12. To what extent should the TTI curriculum promote the following societal needs? KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent						
Societal needs to be emphasized		N	VL	NS	S	G
gg)	Nationalism					
hh)	Patriotism					
ii)	National unity					
jj)	Economic development					

kk)	Industrial development					
ll)	Technological development					
mm)	Social development					
nn)	International consciousness					
oo)	environmental protection					
pp)	Respect of Kenya varied cultures					
qq)	Self fulfillment					
rr)	Social equality					
ss)	Social responsibility					
tt)	Sound morals					
uu)	Good health					
vv)	Information, Communication and Technology					

Others (specify)

Competencies

	13. To what extent should the following competencies be emphasized in the TTI curriculum? KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent					
	Competencies	N	VL	NS	S	G
qq)	Creativity					
rr)	Analysis					
ss)	Organizing					
tt)	Decision making					
uu)	Innovation					
vv)	Networking					
ww)	Collaboration					
xx)	Mentorship					
yy)	Coaching					
zz)	Entrepreneurship					
aaa)	Management					
bbb)	Communication					
ccc)	Planning					
ddd)	Coordination					

eee)	Negotiation					
fff)	Research					
ggg)	Reflection					
hhh)	Critical thinking					
iii)	Problem solving					
jjj)	Leadership					
kkk)	Interpersonal relationship					

Others (specify)

Learning areas

	14.To what extent do you think the following learning areas should be emphasized in the TTI curriculum? KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent					
		N	VL	NS	S	G
ee)	Fine Arts					
ff)	Vocational					
gg)	Technical					
hh)	Design					
ii)	Technology					
jj)	Physical education					
kk)	Health and nutrition					
ll)	Hygiene and sanitation					
mm)	Environment					
nn)	Mathematics					
oo)	Languages					
pp)	Sciences					
qq)	Social cultural values					
rr)	Humanities					
ss)	Entrepreneurship					

tt)	Agriculture					
uu)	Home management					
vv)	Business education					

Others (specify)

Learning Approaches

	15. How often should the following teaching / learning approaches be used in delivering the TTI curriculum? Tick in the appropriate box.			
	KEY: N = never R = rarely A = always.			
		N	R	A
a	Brainstorming			
b	Discussion			
c	Experiment			
d	Debate			
e	Demonstration			
f	Dramatization			
g	Field Excursion /study			
h	Experiential learning			
i	Simulations			
j	Projects			
k	Thematic approach			
l	Drills			
m	Story telling			
n	Lecture			
o	Nature walk			
p	Role Play			
q	Reciting			
r	Riddles			
s	Songs			
t	Dances			

Others (specify)

Assessment

16. To what extent should the following forms of assessment contribute to effective measurement of learners achievements at TTI level? KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent						
		N	VL	NS	S	G
k)	Continuous assessment					
l)	End of the term					
m)	End of year examination					
n)	National examination					
o)	Project					

Others (specify) -----

Nurturing learner potential and talents

17. To what extent should the following strategies be used to nurture talents among TTI learners? KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent						
		N	VL	NS	S	G
a	Special classes					
b	Accelerated learning					
c	Cooperative learning					
d	Special schools for gifted and talented					
e	Early admissions to schools					
g	Advanced placement					
h	Ability grouping					
j	Mentorship programs					
k	Curriculum enrichment					
m	Development of assessment tools					
n	Competition among schools					
o	Holding academic conferences					
p	Clubs and societies					
q	Games and sports					

Others (specify) -----

Cross- cutting issues

18. To what extent should the following issues be addressed through the TTI curriculum?						
KEY: N= none at all, VL=very little extent, NS=not sure S = some extent, G = great extent						
Cross-cutting issues		N	VL	NS	S	G
jj)	Gender issues					
kk)	Good governance					
ll)	Integrity					
mm)	Drug and substance abuse					
nn)	P Disabilities					
oo)	Sexuality education					
pp)	HIV and AIDS					
qq)	Childs rights					
rr)	Health education					
ss)	Guidance and counseling services					
tt)	Disaster risk reduction management					
uu)	Technology					
vv)	Security and safety					
ww)	Environment					
xx)	Climate change					
yy)	Health and hygiene					
zz)	Financial literacy					

Others (specify)

19. Suggest other ways of improving the TTI curriculum

Thank you

RA Sr No.-

A1 S



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

NEEDS ASSESSMENT FOR TERTIARY LEVEL CURRICULUM REFORM

TTI Teachers Questionnaire

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

P.O BOX 30231- 00100

NAIROBI

TEL: 3749900-9

EMAIL: info @kicd.ac.ke

www.kicd.ac.ke

September, 2015

INTRODUCTION

Kenya Institute of Curriculum Development (KICD) is carrying out a Needs Assessment Survey for curriculum reform. The vision of the reform is to “*Nurture every learner’s potential*”. The emphasis of this vision is to nurture learners’ potential in a holistic and integrated manner, so as to produce an individual who is intellectually, emotionally and physically balanced. This questionnaire is designed to obtain information from key stakeholders in order to guide the curriculum reform. The information you provide will be treated in strict confidence and used for this purpose only. Kindly respond to all questions by putting a tick or filling in the blank spaces provided.

Part I: Background Information.

31. County.....

32. Sub county.....

33. Gender

Male

Female

34. Age group

m) 20-30

n) 31-40

o) 41-50

p) Above 50

35. Employer

a) TSC

b) BOM

c) Other (Specify)

36. Status of School

Public

Private

37. Location

Rural

Urban

38. Nature of the School

Boarding

Day

Day and boarding

39. School category

Boys only

Girls only

Mixed

Part II: Societal needs

10. To what extent should the TTI level curriculum promote the following societal needs?						
KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent						
societal needs to be emphasized		N	VL	NS	S	G
ww)	Nationalism					
xx)	Patriotism					
yy)	National unity					
zz)	Economic development					
aaa)	Industrial development					

bbb)	Technological development					
ccc)	Social development					
ddd)	International consciousness					
eee)	Environmental protection					
fff)	Respect of Kenya varied cultures					
ggg)	Self fulfillment					
hhh)	Social equality					
iii)	Social responsibility					
jjj)	Sound morals					
kkk)	Good health					
lll)	Information, communication and Technology					

Others (specify)

Competencies

	11.To what extent should the following competencies be emphasized in the TTI level curriculum? KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent					
	Competencies	N	VL	NS	S	G
lll)	Creativity					
mmm)	Analysis					
nnn)	Organizing					
ooo)	Decision making					
ppp)	Innovation					
qqq)	Networking					
rrr)	Collaboration					

sss)	Mentorship					
ttt)	Coaching					
uuu)	Entrepreneurship					
vvv)	Management					
www)	Communication					
xxx)	Planning					
yyy)	Coordination					
zzz)	Negotiation					
aaaa)	Research					
bbbb)	Reflection					
cccc)	Critical thinking					
dddd)	Problem solving					
eeee)	Leadership					
ffff)	Interpersonal relationship					

others (specify)

Learning areas

	12.To what extent do you think the following learning areas should be emphasized in the TTI level curriculum ?					
	KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent					
		N	VL	NS	S	G
ww)	Fine Arts					
xx)	Vocational					

yy)	Technical					
zz)	Design					
aaa)	Technology					
bbb)	Physical education					
ccc)	Mathematics					
ddd)	Languages					
eee)	Sciences					
fff)	Societal cultural values					
ggg)	Environment					
hhh)	Humanities					
iii)	Health and nutrition					
jjj)	Hygiene and sanitation					
kkk)	Entrepreneurship					
lll)	Agriculture					
mmm)	Home management					
nnn)	Business Education					

Others (specify)

Learning Approaches

	13. How often should the following teaching / learning approaches be used in delivering the TTI
--	---

	curriculum? Tick in the appropriate box.			
	KEY: N=never. R = rarely A=always			
a	Approaches	N	R	A
b	Brainstorming			
c	Discussion			
d	Experiment			
e	Debate			
f	Demonstration			
g	Dramatization			
h	Field Excursion /study			
i	Experiential learning			
j	Simulations			
k	Projects			
l	Drills			
m	Story telling			
n	Lecture			
o	Nature walk			
p	Role Play			
q	Reciting			
r	Riddles			
s	Songs			
t	Dances			

Others (specify)

Assessment

14. To what extent should the following forms of assessment contribute to effective measurement of learners achievements in TTI?						
KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent						
		N	VL	NS	S	G
p)	Continuous assessment					
q)	End of the term					
r)	End of year examination					
s)	National examination					
t)	Project					

Others (specify)

Nurturing learners potential and talents

15. To what extent should the following strategies be used in TTI to nurture learners potential and talents?						
KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent						
		N	VL	NS	S	G
A	Special classes					
B	Accelerated learning					
C	Cooperative learning					
D	Special schools for gifted and talented					
E	Early admissions to schools					
F	Advanced placement					

G	Ability grouping					
H	Mentorship programs					
I	Curriculum enrichment					
J	Competition among schools					
K	Holding academic conferences					
M	Clubs and societies					
Q	Games and sports					

Others (specify)

Cross- cutting issues

16. To what extent should the following issues be addressed in the TTI curriculum?						
KEY: N= none at all, VL=very little extent, NS= not sure, S = some extent, G = great extent						
Cross-cutting issues		N	VL	NS	S	G
1.	Gender issues					
2.	Good governance					
3.	Integrity					
4.	Drug and substance abuse					
5.	Disabilities					
6.	Sexuality education					
7.	HIV and AIDS					
8.	Childs rights					
9.	Life skills					
10.	Health education					
11.	Guidance and counseling services					
12.	Disaster risk reduction management					

13.	Security and safety					
14.	Climate change					
15.	Environment					
16.	Hygiene					
17.	Financial literacy					
18.	Technology					

Others (specify) -----

17. Suggest other ways of improving the TTI curriculum.



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

**NEEDS ASSESSMENT FOR TERTIARY LEVEL CURRICULUM
REFORM**

LEARNERS'

Focus Group Discussion

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT
P.O BOX 30231- 00100
NAIROBI
TEL: 3749900-9
email: info @kicd.ac.ke
www.kicd.ac.ke

January, 2016

Introduction:

Kenya Institute of Curriculum Development (KICD) is carrying out a Needs Assessment Survey for curriculum reform. This Discussion is aimed at obtaining information from key stakeholders

to guide the reform of the curriculum. The information you provide will be treated with confidentiality and used for this purpose only.

Background Information

School

Sub- county

County.....

Level of Institution

Primary Secondary TTC TTI

Group size

Male Female Total

Needs in School Curriculum

1. What does Kenya need for better development? (Probe for social, economic, political and technological improvements)
2. What should education achieve for your county?

Competencies

3. What would you like to acquire (have) by the time you leave school/ college (Probe for abilities, values and attitudes)

Learning/Activity Areas

4. What should be learnt in Primary/ Secondary school/college?
(Probe for knowledge and information to be covered)

Primary-----
Secondary -----
College-----

Resources

- 5. How, do you think you can be supported to learn better?
(Probe for resources, inclusivity)
- 6. Who do you think can provide this support?

Talents

7. How can you be supported to develop your talents in school/ college (Probe for ways and means of identifying and nurturing talents).

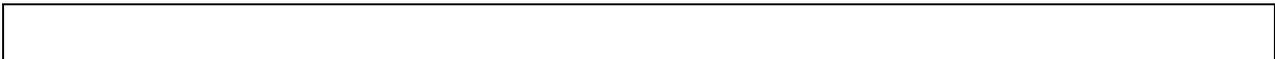
Assessment

- 8. What is the best way of finding out how well you have learnt? (Probe for continuous, end of level examinations e.g. KCPE & KCSE)

Contemporary and Emerging Issues

- 9. What issues that affect you should be addressed in school/ college?
(Probe for physical, social, emotional, ethical, technological, environmental issues etc).
- 10. How should education provide a solution to these social issues?
- 11. What other comments can you make to improve education in Kenya?

Thank You





KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

**NEEDS ASSESSMENT FOR TERTIARY LEVEL CURRICULUM
REFORM**

INTERVIEW SCHEDULE FOR THE INDUSTRY

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT
P.O BOX 30231- 00100
NAIROBI
TEL: 3749900-9
email: info @kicd.ac.ke
www.kicd.ac.ke

January 2016

Introduction:

Kenya Institute of Curriculum Development (KICD) is carrying out a Needs Assessment Survey for curriculum reform. This Interview is aimed at obtaining information from key stakeholders to guide the reform of the curriculum. The information you provide will be treated with confidentiality and used for this purpose only.

Background Information

Venue.....

Sub- county

County.....

Sex Male Female

Needs in School Curriculum

1. 1.What does Kenya need for better development? (Probe for social, economic, political and technological improvements).
- 2.What should education achieve for this county?

Competencies

2. 3.What would you like a child to be able to do by the time they leave ECD, Primary and Secondary school? (Probe for abilities, values and attitudes that a child completing each of the levels should have)
 - i) ECD level -----
 - ii) Primary level -----
 - iii) Secondary level-----
3. 4.How should education be reformed to benefit learners for national, regional and international enterprises/sources of livelihoods?
4. 5.How can education empower local communities to engage meaningfully in economic activities in the county?

Resources

6.How can children be supported to learn better?
(Probe for resources, inclusivity)

Talents

7.What talents should be developed to bring out the best in our children? (Probe for possible talents that can be developed in children)

8.How can the talents be developed? (Probe for strategies/ways and means of identifying and developing the talents)

Assessment

9. What is the best way of finding out how well children have learnt in school?
(Probe for continuous, end of level exams e.g. KCPE & KCSE)

- i) ECD level -----
- ii) Primary level -----
- iii Secondary-----

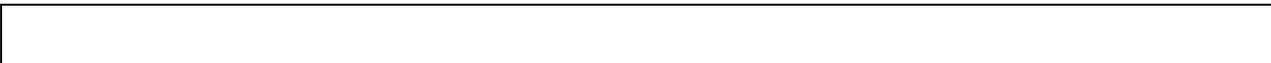
Contemporary and Emerging Issues

10.What in your view are the issues that seem to affect our society? (Probe for social, emotional, ethical, emotional, technological, environmental issues, etc).

11.How can education address these issues?

12.What additional comment(s) would you make to inform the curriculum reform process?

Thank You





KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

**NEEDS ASSESSMENT FOR TERTIARY LEVEL CURRICULUM
REFORM**

INTERVIEW GUIDE FOR KEY INFORMANTS

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT
P.O BOX 30231- 00100
NAIROBI
TEL: 3749900-9
email: info @kicd.ac.ke
www.kicd.ac.ke

January 2016

Introduction

Kenya Institute of Curriculum Development (KICD) is carrying out a Needs Assessment Survey for curriculum reform. This Interview is aimed at obtaining information from key informants to

guide the reform of the curriculum. The information you provide will be treated with confidentiality and used for this purpose only.

Background Information

Organization represented by interviewee/ Role in society

.....

Designation in organization.....

Sub- county

County.....

Sex Male Female

Needs in School Curriculum

1. Tell us about yourself in relation to your role in education in Kenya and beyond.
2. What are your thoughts about the current curriculum in Kenya? (*Probe for gaps in relation to economic, social, industrial, environmental, moral, health, spiritual, citizenship and, individual development*)
3. How should education address the identified gaps?

Competencies

4. What competencies do you think should be developed by the time children/learners leave school. (Probe for abilities, values and attitudes for each of the following levels);
ECD.....
Primary.....
Secondary.....
Teacher Education.....
TVET.....

Pedagogy

5. Give any suggestions on pedagogical approaches that can facilitate development of the competencies identified above. (*Probe for strategies, methods and techniques*)

6. What capacities need to be developed among teachers to enable learners acquire the identified competencies?
7. What are the strategies (ways and means) for identification and nurturing of learners' talents?

Resources

8. What teaching and learning resources would be required to facilitate development of identified competences?

Assessment

9. Suggest the best way of finding out how well the learners have realized the identified competencies.

Contemporary and Emerging Issues

10. What contemporary and emerging issues should be addressed by the curriculum?
11. Give your thoughts on pathways that should be provided for at various levels of education to harness every learner's potential.
12. What additional comment(s) would you make to inform the curriculum reform process?

Thank you

APPENDICES

Appendix 1

CODES

CS – FGD – YPP - NAI - BUN	College Students ,Focus Group Discussion , Youth Polytechnic Public , Naitiri Youth Polytechnic, Bungoma County
CS – FGD – ISTP - NIST - NYA	College Students ,Focus Group Discussion , Institute of Science and Technology Public, Nyandarua , Nyandarua County
CSL - TTIP - MAW - HOM	College Student Leader , Technical Training Institute ,Public ,Mawego , Homabay County
CS - FGD - TTIP - WOT - MAK	College Student Leader , Technical Training Institute Public, Wote, Makueni County
CS – FGD – TTCPP - MAA - KAJ	College Students , Focus Group Discussion, Private, Teachers Training College , Masai - Kajiando County
CSL - TTIP - WOT - MAK	College Student Leader ,Technical Training Institute Wote , Makueni County
CSL -TTCP –NAR- NAR	College Student Leader , Teachers Training College Narok , Narok County
CS – FGD – YPP - NAI - BUN	College Students ,Focus Group Discussion , Youth Polytechnic Public , Naitiri Youth Polytechnic, Bungoma County
CS – FGD – ISTP - NIST - NYA	College Students ,Focus Group Discussion , Institute of Science and Technology Public, Nyandarua , Nyandarua County
CSL - TTIP - MAW - HOM	College Student Leader , Technical Training Institute ,Public ,Mawego , Homabay County
CS - FGD - TTIP - WOT - MAK	College Student Leader , Technical Training Institute Public, Wote, Makueni County
CS – FGD – TTCPP - MAA - KAJ	College Students , Focus Group Discussion, Private, Teachers Training College , Masai - Kajiando County

CSL - TTIP - WOT - MAK	College Student Leader ,Technical Training Institute Wote , Makueni County
CSL -TTCP –NAR- NAR	College Student Leader , Teachers Training College Narok , Narok County
CS –FGD- TTCP- KAG –NYE	Colleges students, Focus Group Discussion, Teacher Training college, Public, Kagumo, Nyeri county
CS- FGD –TTCP- NAR- NAR	College students, Focus Group Discussion, Teacher Training college Public, Narok, Narok County
CS- FGD -TTCP –MIG- MIG	College students, Focus Group Discussion, Teacher raining college, Public ,Migori, Migori county
CSL- FGD –TTCP- BAR- BAR	College students, Focus Group Discussion Teacher -Training College, Public Baringo, Baringo County
PA -FGD –TTIP- UKU -KWA	Parent, Focus Group Discussion, Technical Training Institute public, Ukunda, Kwale County
CS -FGD –TTIP- UKU -KWA	College students, Focus Group Discussion, Technical Training Institute public, Ukunda, Kwale County
SL- TTI -SIG –KAK	Student Leader, Technical Training Institute, public, Sigalagala, Kakamega
CS-FGD- TTCP-BAR- BAR	College Student, Focus Group Discussion, Teacher Training College Public Baringo, Baringo County
CS -TTI-FGD- TTIP-RTI- UG	College Student, Technical Training Institute, Public Uasin
STTI – FGD – TTIP-MAC- MAC	Student ,Technical Training Institute, Public Machakos, Machakos County
CS – FGD – TTCPSHA - KIL	College Student, Focus Group Discussion, Teacher Training College Public,Shanzu, Kilifi,
SL- TTI -- MAW- HOM	Student leader, Mawego Technical Training Institute, Homabay County
SL- TTI -WOT -MAK	Student Leader, Wote Technical Training Institute, Makueni County
CS- TTC- MAA -KAJ	College Student, Teacher Training College, Masai,Kajiando County

STTI -FGD - TTIP-EGE –NYAM

College Student, Technical Training Institute,
EkeruboEgeita, Nyamira County

CS -FGD –TTIP- KAG –MUR

College students, Focus Group Discussion,
Technical Training Institute public, Kagama ,
Muranga County

Appendix 2

Memoranda

AC-MM	Pastor Mary Mumo
ASM-IS	Administrator, St. Martin
BSK-RI	Bible Society of Kenya...1
BSK-RI	Bible Society of Kenya...2
BSK-RI	Bible Society of Kenya
CITAM-RI	Judy, CITAM
CT-RI	ChildnetTuamke
DBK-IS	DorcasBahatiKisiangani
DJWK-IS	David J. W. Kimani
HATUA-RI	Hatua
HE-IS	Hassan Ebrahim
JK-IS	Joel Kariuki
JWM-IS	Juliet J. Wachira
KCCB-RI	Kenya Conference of Catholic Bishop
KCP-RI	Kenya Christian Professionals
KP-EO	Kenya Publishers Association
ME-RI	Muslim Education Council
RW-IS	Robert Watene
SMO-IS	Sister Mary O'Brien
SN-IS	Susan Nyamu
TKS-IS	TruphenaKwakaSuba
WM-AC	WangariMaathai Foundation

Appendix 3

KEY INFORMANTS

NO.	CODE	INTERVIEWEE	INSTITUTION	COUNTY
1.	KI-AIC-KIT	REVEREND	AFRICA INLAND CHURCH	KITUI
2.	KI-BRI-NAI	CEO	BRITISH COUNCIL	NAIROBI
3.	KI-CAS-NAI	CATHOLIC SECRETARIAT	CATHOLIC CHURCH	NAIROBI
4.	KI-CAT-BUN	PRIEST	CATHOLIC DIOCESE	BUNGOMA
5.	KI-CAT-MAC	PRIEST	CATHOLIC CHURCH	MACHAKOS
6.	KI-CBE-KIT	INCHARGE BASIC EDUCATION	COUNTY GOV	KITUI
7.	KI-CBK-NAI	DIRECTOR	CBK-SCHOOL OF MONETARY STUDIES	NAIROBI
8.	KI-CCO-MAN	CHIEF EXECUTIVE HUMAN RESOURCE	COUNTY GOV	MANDERA
9.	KI-CDE-BUN	CDE	TSC	BUNGOMA
10.	KI-CDE-KIL	COUNTY DIRECTOR OF EDUCATION	TEACHERS SERVICE COMMISSION	KILIFI
11.	KI-CDE-KIT	CDE	TSC	KITUI
12.	KI-CDE-LAI	COUNTY DIRECTOR	TEACHERS SERVICE COMMISSION	LAIKIPIA
13.	KI-CDE-MAK	CDE	COUNTY GOV	MAKUENI
14.	KI-CEB-BUN	CHAIR	COUNTY EDUCATION BOARD	BUNGOMA
15.	KI-CEE-KAK	CEE	COUNTY GOVERNMENT	KAKAMEGA
16.	KI-CEE-KIL	COUNTY EDUCATION EXECUTIVE	COUNTY GOVERNMENT -KILIFI	KILIFI
17.	KI-CEE-KWA	COUNTY EDUCATION EXECUTIVE	COUNTY GOVERNMENT KWALE	KWALE
18.	KI-CEE-NYE	COUNTY EDUCATION EXECUTIVE	COUNTY GOVERNMENT	NYERI
19.	KI-CEMA-NAI	DIRECTOR	CEMASTEAM	NAIROBI
20.	KI-CPC-NAI	CHAIR PERSON	PARLIAMENTARY COMMITTEE ON EDUCATION, RESEARCH AND TECHNOLOGY	NAIROBI
21.	KI-CUE-NAI	DEPUTY CEO	COMMISSION ON UNIVERSITY EDUCATION	NAIROBI
22.	KI-DDE-MUR	DEAN DEPARTMENT OF ENGINEERING	MURANG'A UNIVERSITY	MURANG'A
23.	KI-DQA-KIL	DIRECTOR QUALITY ASSURANCE PWANI UNIVERSITY	PWANI UNIVERSITY	KILIFI

24	KI-DVC-KAU	DEPUTY VICE CHANCELLOR	KARATINA UNIVERSITY	NYERI
25	KI-EACC-NAI	EACC DEPUTY DIRECTOR	EACC	NAIROBI
26	KI-FAWE-NAI	CEO	FAWE	NAIROBI
27	KI-HET-NAI	HEADTEACHER	MAKINI SCHOOL	NAIROBI
28	KI-ICT-NAI	CEO	ICT AUTHORITY	NAIROBI
29	KI-IED-NAI	DIRECTOR	MIN. OF INDUSTRIALIZATION & ENTERPRISE DEVELOPMENT	NAIROBI
30	KI-KEPSHA-NAI	KEPSHA CEO- NAIROBI	KENYA PRIVATE SCHOOLS HEADS ASSOCIATION	NAIROBI
31	KI-KNEC-NAI	FORMER CEO	KNEC	NAIROBI
32	KI-LIS-NAI	CHIEF EXECUTIVE	LIFESKILL PROMOTERS	NAIROBI
33	KI-MMI-NYE	MUSLIM MADARASSA IMAM	MUSLIM IMAMS	NYERI
34	KI-MSP-BAR	CHIEF EXECUTIVE OFFICER	MOGOTIO SISAL PLANTATION	BARINGO
35	KI-TSC-NAI	CHAIR PERSON	TSC	NAIROBI
36	KI-TVE-NAI	TIVET EXPERTS(RATENG & OWUOR)	TIVET	NAIROBI
37	KI-UNESCO-NAI	REPRESENTATIVE	UNESCO	NAIROBI
38	KI-UST-KAU	STUDENTS FGD	KARATINA UNIVERSITY	NYERI
39	KI-UST-PWU	FGD PWANI UNIVERSITY STUDENTS	PWANI UNIVERSITY	KILIFI

Appendix 4

Table 5.2: Teacher Training Collages Visited

Institution	County
1. Thogoto TTC	Kiambu
2. Garrisa TTC	Garrisa
3. Shanzu TTC	Kilifi
4. Narok TTC	Narok
5. Migori TTC	Migori
6. Masai TTC	Kajiado
7. Machakos TTC	Machakos
8. Kagumo TTC	Nyeri
9. Baringo TTC	Baringo
10. Samburu TTC	Samburu

Appendix 5

Table 5.3: TVET Institutions Visited

Institution	County
1. Bumbe Youth polytechnic	Busia
2. Sigalagala TTI	Kakamega
3. Ukunda youth polytechnic	Kwale
4. Kagema youth polytechnic	Muranga
5. Wote TTI	Makueni
6. Mawengo TTI	Homabay
7. Nyandarua institute of science and technology	Nyandarua
8. Maitiiriu youth polytechnic	Bungoma
9. Machakos TTI for the blind	Machakos
10. Eleruboegeta TTI	Nyandarua
11. Ekerubo Egeita TTI	Nyamira
12. Uasin Gishu TTI	Uasin Gishu
13. Nanyuki TTI	Nanyuki
14. NEP TTI	
15. Karumo TTI	
16. Rift valley Technical Training Institute	Nakuru