

**Employability skills of Technical College graduates: A case for  
Government Technical College (GTC) in Ahoada Rivers State Nigeria**

**by**

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## **ABSTRACT**

This thesis sought to explore the Employability skills of Technical College graduates with the aim to establish: stakeholders' perceptions of skills required by Technical College graduates for their employability, and to find out if there is an interface in their perceptions. The study was guided by two research questions:

1. What are the sets of skills graduates from Technical Colleges need for employability as:
  - a) Recommended by the Nigeria National Policy on Education (2004) and the Senior Secondary Education Curriculum (2008)?
  - b) Perceived by teachers and graduates from Technical Colleges?
  - c) Required by employers of Technical College graduates?
2. Is there an interface as defined by above stakeholders? If so, what is its nature?

To successfully address these questions a qualitative case study design approach was used. Data was generated through two policy documents: the Nigeria National Policy on Education (2004) and the Senior Secondary Education Curriculum (2008); and questionnaires and focus group discussions with Technical College graduates and teachers as well as industry employers. The theoretical orientation that framed the study was the Triple Helix theory of academia, industry and government relations. This theory agitates for an improved and increased relationship among various organisations in an industrial economy's innovation system especially academia, industry and government. This framework not only allowed for determining the level of collaboration among the four stakeholders, but opened up creative ways for the tracing the trajectory required for construction of the requisite employability skills of Technical College graduates.

Analysis of data gained from answering the two research questions confirmed that, although weak, interfaces do indeed exist with respect to the requisite skills of Technical College graduates as per the perceptions of the four stakeholders involved in the study. The analysis revealed points of convergence and divergence in the type and nature of the interfaces explored.

With regard to the technical skills required, two interfaces were observed. Firstly, the *policy-teacher-graduate-employer* interface revealed convergence in relation to the following technical skills: mechanical, building and electrical trades. These trade skills were identified by all the stakeholders as necessary skills requirements for Technical College graduates. Secondly, the *teacher-graduate* interface revealed convergence in relation to maintenance skills. While the teachers see maintenance skills as a subject area that needs to be incorporated into the whole Technical College programme, the graduates consider it as a component of a particular trade, which is electrical engineering. This, therefore, signals a variation on what both stakeholders perceive maintenance skills to be, and thus points to an interesting variation in the understanding of the phenomenon.

With regard to the soft skills required by the stakeholders amongst Technical College graduates, four interfaces were foregrounded. The first interface cut across all four stakeholders involved in the study and converged on self-reliance as a requisite skill for Technical College graduates. Though all stakeholders stressed self-reliance as a necessary skill that needs to be developed by Technical College graduates, there were still discrepancies in their views of what self-reliance is. The second interface was the *policy-teacher-employer* interface. It converged with slight variations at the following three skills: communication, problem-solving and mathematical literacy. The third interface was the *policy-teacher* interface, and it converged at analytical skills. Finally, the fourth interface was the *policy-*

*employer* interface which converged with slight variations at two skills: technical drawing and interpersonal and human relations.

It is significant to note that the points of divergence observed came from only two of the four stakeholders, namely, policy (local government) and industry employers and these related to the capital market and basic safety skills, respectively.

The weak interface formed by the stakeholders in this study is indicative of weak links between policy, Technical College and industry. The implication is that Technical College programmes are producing graduates with skills not responsive to the needs of the labour market and of society. What such weakness foregrounds is a call for policy reform and forums for communication in order to address the factors that have led to the feeble interface currently experienced regarding policy construction and skills development.

## DECLARATION

I declare that “**Employability Skills of Technical College Graduates: A Case for Government Technical College (GTC) in Ahoada, Rivers State Nigeria**” is my own work and that all the sources I have used or quoted, have been indicated and acknowledged by means of complete references.

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# **ETHICAL CLEARANCE**

## **DEDICATION**

This piece of work is dedicated to God Almighty-Jehovah EL SHADDAI who gave me the strength and courage to carry out this study successfully in spite of all the challenges encountered.

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## **ABBREVIATIONS**

ACCI	Australian Chamber of Commerce and Industry
AT	Apprenticeship Training
AU	African Union
BCA	Business Council of Australia
CTE	Career and Technical Education
FME	Federal Ministry of Education
FMYD	Federal Ministry of Youth Development
GTC	Government Technical College
MDGs	Millennium Development Goals
NBS	National Bureau of Statistics
NBYS	National Baseline Youth Survey
NCE	National Council on Education
NEEDS	National Economic Empowerment and Development Strategies
NERDC	National Education Research and Education Council
NMC	National Mathematics Centre
NPE	National Policy on Education
OE	Occupational Education
QMS	Quality Management System
SSEC	Senior Secondary Education Curriculum
SSS	Senior Secondary School
TE	Technical education
THM	Triple Helix Model
TRC	Teachers' Registration Council
TVET	Technical and Vocational education and training
UBE	Universal Basic Education
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEVOC	International Centre for Technical and Vocational Education and Training
VE	Vocational Education
VTE	Vocational Education and Training

# TABLE OF CONTENTS

<b>ABSTRACT</b>	<b>ii</b>
<b>DECLARATION</b>	<b>v</b>
<b>ETHICAL CLEARANCE</b>	<b>vi</b>
<b>DEDICATION</b>	<b>vii</b>
<b>ACKNOWLEDGEMENTS</b>	<b>viii</b>
<b>ABBREVIATIONS</b>	<b>ix</b>
<b>TABLE OF CONTENTS</b>	<b>x</b>
<b>LIST OF TABLES</b>	<b>xviii</b>
<b>LIST OF FIGURES</b>	<b>xix</b>
<b>CHAPTER 1</b>	<b>1</b>
<b>INTRODUCTION</b>	<b>1</b>
<b>1.1 CONTEXT AND RESEARCH BACKGROUND</b>	<b>1</b>
1.1.1 Technical and vocational education in Nigeria	3
1.1.2 Importance of technical and vocational education	5
<b>1.2 RESEARCHER'S BACKGROUND</b>	<b>7</b>
<b>1.3 PURPOSE OF THE STUDY</b>	<b>7</b>
<b>1.4 OBJECTIVE OF THE STUDY</b>	<b>8</b>
<b>1.5 RESEARCH QUESTIONS</b>	<b>8</b>
<b>1.6 CONTEXT OF THE STUDY</b>	<b>9</b>
<b>1.7 SIGNIFICANCE OF THE STUDY</b>	<b>10</b>
<b>1.8 CLARIFICATION OF TERMS</b>	<b>10</b>
<b>1.9 OUTLINE OF THE STUDY</b>	<b>12</b>
<b>CHAPTER 2</b>	<b>13</b>
<b>THEORETICAL FRAMEWORK</b>	<b>13</b>

<b>2.1 AN OVERVIEW OF THE HISTORICAL ANTECEDANTS THAT PRECEDED THE TRIPLE HELIX III MODEL</b>	<b>13</b>
2.1.1 Triple Helix I – Etatistic Model	13
2.1.2 Triple Helix II – Laissez-faire model	15
2.1.3 Triple Helix III	16
2.1.4 Triple Helix III and its applicability to this study	18
<b>2.2 CONCLUSION</b>	<b>20</b>
<b>CHAPTER 3</b>	<b>21</b>
<b>LITERATURE REVIEW</b>	<b>21</b>
<b>3.1 GEOGRAPHICAL AND DEMOGRAPHICAL DESCRIPTION OF NIGERIA</b>	<b>21</b>
<b>3.2 THE NEED FOR TVET IN THE NIGERIAN SCHOOL SYSTEM</b>	<b>22</b>
3.2.1 Meaning of TVET	23
3.2.2 National objectives of TVET in Nigeria	24
3.2.3 Quality assurance	25
3.2.4 Funding TVET in Nigeria	26
3.2.5 Status of TVET	26
3.2.6 TVET facilities and equipment	27
3.2.7 The organisation and administration of TVET	27
3.2.8 TVET curriculum reform and development	28
3.2.9 TVET teacher education	30
3.2.10 Staff development	31
3.2.11 Relationship between TVET and enterprises	32
3.2.12 Internship and cooperative work placement	32
3.2.13 Industrial training	33
<b>3.3 GRADUATES’ EXPECTATION</b>	<b>34</b>
<b>3.4 EMPLOYABILITY</b>	<b>35</b>
3.4.1 Skill	35
3.4.2 Clarification on the concept and definition of employability skills	35
3.4.3 Terminologies and employability skills	37
3.4.4 Employability: The global experience	39
3.4.5 Namibia	39

3.4.6 South Africa	40
3.4.7 Egypt	40
3.4.8 Malaysia	40
3.4.9 Greece	42
3.4.10 Australia	42
3.4.11 Germany	43
3.4.12 United States of America	44
3.4.13 Canada	46
3.4.14 Botswana	46
3.4.15 India	46
3.4.16 United Kingdom	47
3.4.17 Nigeria	49
<b>3.5 RESEARCH GAP</b>	<b>50</b>
<b>3.6 CONCLUSION</b>	<b>51</b>
<b>CHAPTER 4</b>	<b>52</b>
<b>RESEARCH METHODOLOGY</b>	<b>52</b>
<b>4.1 RESEARCH DESIGN</b>	<b>52</b>
<b>4.2 RESEARCH PARADIGM</b>	<b>53</b>
<b>4.3 CASE STUDY</b>	<b>54</b>
<b>4.4 DATA SOURCE</b>	<b>56</b>
<b>4.5 SAMPLE AND SAMPLING METHOD</b>	<b>56</b>
<b>4.6 METHODS OF DATA COLLECTION</b>	<b>57</b>
4.6.1 Phase 1, Research Question One	58
4.6.1.1 Document analysis	58
4.6.1.2 Open ended questionnaires and focus group interviews	59
4.6.1.3 Benefits of focus group interviews	60
4.6.1.4 Administration of questionnaires to Technical College teachers	61
4.6.1.5 Focus group discussion with Technical College teachers	61
4.6.1.6 Administration of questionnaires to Technical College graduates	62
4.6.1.7 Focus group discussion with Technical College graduates	62

4.6.1.8 Administration of questionnaires to employers' of Technical College graduates _____	63
4.6.1.8.1 Semi-structured interview with an employer _____	63
4.6.1.9 Focus group discussion with employers' of Technical College graduates ____	64
6.6.2 Phase II: Research Question Two _____	64
<b>4.7 FIELD WORK EXPERIENCES _____</b>	<b>64</b>
4.7.1 Visit to Companies (Employers) _____	65
4.7.2 Visitation to Government Technical College _____	65
4.7.3 Visit to State Ministry of Education _____	66
<b>4.8 DATA ANALYSIS AND INTERPRETATION _____</b>	<b>66</b>
4.8.1 Phase I: Research Question One _____	66
4.8.1.1 Stage I: Document analysis _____	67
4.8.1.2 Stage II: Content analysis _____	67
4.8.1.3 Stage III: Thematic Analysis _____	68
4.8.2 Phase II: Research Question Two _____	69
<b>4.9 RESEARCH VIGOUR _____</b>	<b>69</b>
4.9.1 Validity _____	69
4.9.2 Credibility _____	70
4.9.3 Triangulation _____	70
<b>4.10 ETHICAL CONSIDERATIONS _____</b>	<b>71</b>
4.10.1 Informed Consent _____	71
4.10.2 Ethical dilemmas _____	72
<b>4.11 LIMITATIONS OF THE STUDY _____</b>	<b>72</b>
4.11.1 Generalisation of result _____	72
<b>4.12 CONCLUSION _____</b>	<b>73</b>
<b><i>DATA ANALYSIS AND INTERPRETATION _____</i></b>	<b><i>74</i></b>
<b>5.1 RESEARCH QUESTION ONE: EMPLOYABILITY SKILLS RECOMMENDED BY POLICIES _____</b>	<b>74</b>
5.1.1 Analysis of policy documents _____	75
5.1.2 National Policy on Education (NPE) 2004 _____	75
5.1.3 Senior Secondary Education Curriculum (SSEC) 2008 _____	77

<b>5.2 RESEARCH QUESTION ONE: EMPLOYABILITY SKILLS AS PERCEIVED BY TEACHERS AND GRADUATES</b>	<b>78</b>
5.2.1 Technical College teachers	78
5.2.2 Technical College graduates	80
5.2.3 Research Question One: Employability skills as required by employers	83
5.2.3.1 Employers of Technical College graduates	84
<b>5.3 CHALLENGES TO EFFECTIVE EMPLOYABILITY SKILLS DEVELOPMENT AS OUTLINED BY STAKEHOLDERS</b>	<b>86</b>
5.3.1 Technical College Teachers	86
5.3.1.1 Lack Training Facilities, Building infrastructure and Modern Equipment	86
5.3.1.2 Overcrowded Classroom	87
5.3.1.3 Poor Administration of Technical Education Due to Absence of Technical Schools Board and Qualified Personnel	88
5.3.1.4 Lack of Funds	89
5.3.1.5 Lack of Partnership amongst Government, Industry and Technical Colleges (TCs)	89
5.3.1.6 Inadequate Qualified Technical Personnel and Poor Staff Development	90
5.3.2 Technical College Graduates	91
5.3.2.1 Limited curriculum	91
5.3.2.2 Lack of adequately trained personnel	92
5.3.2.3 Lack of functional modern equipment	92
5.3.2.4 Lack of training materials	93
5.3.2.5 Lack of funds	93
5.3.3 Technical College Graduates Employers	94
5.3.3.1 Lack of Training Facilities and Modern Equipment	94
5.3.3.2 Lack of competent teachers	95
5.3.3.3 Lack of Curriculum Alignment Due to Absence of Partnership in Curriculum Design Process	95
5.3.3.4 Theoretically Dominated Curriculum	96
5.3.3.5 Review of Out-Dated Curriculum	97
<b>5.4 SUMMARY OF FINDINGS WITH RESPECT TO RESEARCH QUESTION ONE</b>	<b>98</b>

5.4.1 Summary on the findings about the employability skills required from Technical College graduates as recommended by the two policy documents _____	100
5.4.2 Summary of the findings of Technical College teachers' perceptions of the employability skills required from Technical College graduates _____	101
5.4.3 Summary of the findings of the Technical College graduates' perceptions of the employability skills required from Technical College graduates _____	101
5.4.4 Summary of the findings of the Industry employers' perceptions of the employability skills required from Technical College graduates _____	102
<b>5.5 CONCLUSION _____</b>	<b>102</b>
<b>CHAPTER 6 _____</b>	<b>104</b>
<b>ANALYSIS OF RESEARCH QUESTION TWO _____</b>	<b>104</b>
<b>6.1 RESEARCH QUESTION TWO: INTERFACES AND THEIR NATURE ____</b>	<b>104</b>
6.1.1 Analysis of the Technical Skills Interface _____	104
6.1.1.1 The Policy-Teacher-Graduate-Employer Interface _____	105
6.1.1.2 The Teacher-Graduate Interface _____	106
6.1.2 Analysis of the Soft Skills Interface _____	106
6.1.2.1 The Policy-Teacher-Graduate-Employer Interface _____	107
6.1.2.2 The Policy-Teacher-Employer Interface _____	107
6.1.2.3 The Policy-Teacher Interface _____	107
The Policy-Employer Interface _____	107
6.1.3 Analysis of the nature of the interfaces _____	108
6.1.3.1 Analysis of the nature of the interface of technical skills _____	109
6.1.3.1.1 The Nature of the Policy-Teacher-Graduate-Employer interface ____	109
6.1.3.1.1 The Nature of the Teacher-Graduate interface _____	109
6.1.3.2 Analysis of the nature of the interface of soft skills _____	109
6.1.3.2.1 The Nature of the Policy-Teacher-Graduate-Employer Interface ____	109
6.1.3.2.2 The Nature of Policy-Teacher-Employer Interface _____	112
6.1.3.2.3 The Nature of the Policy-Teacher Interface _____	114
6.1.3.2.4 The Nature of the Policy-Employer Interface _____	114
6.1.4 Divergences _____	115
6.1.4.1 Policies _____	116
6.1.4.2 Employer _____	116

<b>6.2 DISCUSSION OF THE FINDINGS</b>	<b>116</b>
<b>6.3 CONCLUSION</b>	<b>119</b>
<b>CHAPTER 7</b>	<b>120</b>
<b>DISCUSSION AND RECOMMENDATIONS</b>	<b>120</b>
<b>7.1 SUMMARY OF FINDINGS FROM RESEARCH QUESTIONS ONE AND TWO</b>	<b>121</b>
7.1.1 Summary of Findings from Research Question One	121
7.1.1.1 Summary on the findings about the employability skills required from Technical College Graduates as recommended by the 2 policy documents explored	121
7.1.1.2 Summary of the findings of Technical College teachers' perceptions of the employability skills required from Technical College graduates	122
7.1.1.3 Summary of the findings of the Technical College graduates' perceptions of the employability skills required from Technical College graduates	122
7.1.1.4 Summary of the findings of the Industry employers' perceptions of the employability skills required from Technical College graduates	123
7.1.2 Summary of findings from Research Question Two	123
<b>7.2 THE CONSTRUCTION OF EMPLOYABILITY BY THE FOUR STAKEHOLDERS AND ITS IMPLICATIONS</b>	<b>124</b>
7.2.1 Employability as construed by Policy documents	124
7.2.2 Employability as construed by Teachers	125
7.2.3 Employability as construed by Graduates	125
7.2.4 Employability as construed by Employers	126
<b>7.3 SILENT VOICES OF THE GRADUATES</b>	<b>127</b>
<b>7.4 EFFECT OF THE INTERFACES AND THEIR IMPLICATIONS FOR TVET IN NIGERIA</b>	<b>129</b>
7.4.1 Curriculum slippage	133
7.4.2 Collaborative Curriculum Planning	134
7.4.3 Effective Implementation of Technical College Programme	135
7.4.4 Slippage in the Provision of TVET Facilities and Equipment	135
7.4.5 Slippage in the Organization and Administration of TVET	136



7.4.6 TVET Teacher education	137
7.4.7 TVET Curriculum reform and development	139
7.4.8 Relationship between TVET institutions and enterprises	139
<b>7.5 REFLECTION ON THE TRIPLE HELIX THEORY</b>	<b>141</b>
<b>7.6 RECOMMENDATIONS</b>	<b>142</b>
<b>REFERENCES</b>	<b>144</b>
<b>APPENDIX A</b>	<b>164</b>
<b>APPENDIX B</b>	<b>166</b>
<b>APPENDIX C</b>	<b>167</b>
<b>APPENDIX D</b>	<b>168</b>
<b>APPENDIX E</b>	<b>169</b>
<b>APPENDIX F</b>	<b>173</b>
<b>APPENDIX G</b>	<b>176</b>
<b>APPENDIX H</b>	<b>179</b>
<b>APPENDIX I</b>	<b>180</b>
<b>APPENDIX J</b>	<b>181</b>
<b>APPENDIX K</b>	<b>182</b>
<b>APPENDIX L</b>	<b>183</b>

## LIST OF TABLES

Table 3.1 Concepts Used For Employability Skills in Countries Overseas .....	38
Table 3.2: Attributes and their descriptions .....	44
Table 4.3: Misinterpretations on the use of case study as a scientific research technique .....	55
Table 4.4: Merits of Focus group discussion and its benefits .....	60
Table 5.5: Summary of employability skills as defined by different stakeholders.....	99
Table 6.6: Summary of findings on the type and nature of interfaces – convergence and divergences - on the requisite skills .....	118

## LIST OF FIGURES

Figure 1: An Etatistic Model of University-Industry-Government relations.....	14
Figure 2: A “laissez-faire” model .....	15
Figure 3: Triple Helix Model of University–Industry–Government Relations .....	17
Figure 4 Map of Nigeria .....	22
Figure 5: A Qualitative model (inductive) showing stages in Content analysis.....	68
Figure 6: Technical skills interface.....	105
Figure 7: Soft skills interface .....	106
Figure 8: Nature of interface for points of convergence.....	108

# **CHAPTER 1**

## **INTRODUCTION**

The issue of graduate employability has been a source of major concern all over the world as to whether our educational institutions are meeting the need for their establishment. Employability of graduates to a large extent determines the functionality and viability of a school program. Therefore, this study identifies employability of Technical College graduates as an area that needs to be properly explored. Indications from previous studies are that school graduates are not well prepared for the world of work as there exists a gap between the skills acquired in schools and that which require (Hennemann & Liefner, 2010; Rasul & Mansor, 2013). This is the basis upon which this study investigates the type of skills specified in the Federal Republic of Nigeria National Policy on Education 2004. These issues are outlined in this chapter as it is designed to explore the subject under study by presenting a brief background and context of the study; researcher's background; purpose of the study; objective of the study; critical research questions; context of the study; significance of the study, among others.

### **1.1 CONTEXT AND RESEARCH BACKGROUND**

Despite the arrival of Western education, Nigeria has always practiced a non-formal or traditional form of education which also equipped individuals with the required knowledge as desired during that period. This is because the curriculum of Western education was designed to meet specific goals and objectives of the colonisers. Western education as introduced by Christian missionaries was characterised mainly by religious background which in turn influenced already existing non-formal curriculum. They were mainly interested in developing individuals in reading the bible in English and the native languages, farmers and people well learned in the Christian religion (Oluniyi & Akinyeye, 2013).

Before the advent of the most recent policy on education in Nigeria, there were systems of education operating in Nigeria from before independence, otherwise known as the colonial era, and those operating from after independence. There were basically two systems, the northern and southern systems of education. The northern system was

characterised by Quaranic education well established in Islam tailored to meet the religious beliefs and educational needs of the northerners (Ozigi & Ocho, 1981). In the southern part of Nigeria, the issue was different as there were variations in the systems of education based on ethnicity; education was strictly based on culture and tradition, though with related goals (Taiwo, 1980). Fafunwa (2004) observes that the southern system of education operated with non-formal curricula designed to equip those who passed through it with character, physical skills, intellectual skills and respect for elders. It also included the delivery of vocational training which enabled them to be responsive to labour requirements; thus, being part and useful members of the family and broader society. This education system attached value to the cultural heritage of the community, and fostered appreciation for that heritage.

During the colonial era Nigeria had three different systems of education running concurrently: traditional, Quaranic and Western. Each operated at a different developmental pace, with differing growth of Western education (Imam, 2012). The Western form of education, adopted during the colonial rule by the British administrators consisted of four stages: primary, secondary, sixth form and higher education (Fabunmi, 2009).

Gusau (2008), argued that the change in 1954 by the British colonial administrators from the 8-6-2-3 to the 6-5-2-3 system of education which is 8-years of primary, 6-years of secondary, 2-years of higher school certificate and 3-years of university education to 6-years of primary, 5-years of secondary, 2-years of higher school certificate and 3-years of university education was due to the clamour for self-governance and educational autonomy by Nigerians. This in turn brought about a decline in the number of years spent in primary and secondary education respectively.

However, in 1969 on attainment of independence, Nigeria became dissatisfied with the colonial form of education which was not responsive to the needs and aspirations of Nigerians and decided to convene a national curriculum conference that would deliberate on needs and aspiration of Nigerians (Fabunmi, 2009). In September 1969, a National Curriculum Conference was organised in Lagos by the Nigeria Educational Research Council (NERC) with the mission of right thinking for Nigerian education, having three major considerations viz: necessities of the society, constituent elements of the curriculum and the importance of the young people. Also discussed in the conference was a change in the British form of education which was assessed to not

be progressive for the country (Gusau, 2008). The conference in its recommendations highlighted the inclusion of technical and vocational subjects which was not considered in the former system (Wodi & Dokubo, 2012). The British curriculum was designed to shape individuals academically and only accommodated few who pursued higher education, while many who had secondary education were lacking marketable skills (Fafunwa & Aisiku, 1982).

However, after the 1969 National Curriculum Conference, a seminar was organised in 1973 which assembled professionals representing different interest groups, volunteers and external bodies within Nigeria to consolidate on the gains of the National Curriculum Conference and deliberate on the constituents of the national policy for a nation state like Nigeria. The seminar ended with a draft document, which was published as the first National Policy on Education in 1977 (NPE, 2004). This first policy ushered in the new 6-3-3-4 system of education, which entails six years of primary education, three years of junior secondary, three years of senior secondary and four years of university education. The inception of this policy ushered in a uniform system of education in the country with new concepts and goals, thereby giving prominence to vocational and technical education (Osami, 2013; Wodi & Dokubo, 2012).

However, since the emergence of the first national policy on education in 1977, there have been revisions of the policy in 1981, 1998 and 2004; this was done to keep pace with the dynamics of the society and its needs (NPE, 2004). The revision to the present 2004 edition of the policy was demanded due to policy improvements and modifications, and the need for an update of the 1998 edition of the policy. The improvements and modifications were based on nine issues; for the purpose of this study, we shall consider the eighth issue which centres on “repositioning science, technical and vocational education in the scheme of national education for optimum performance” (NPE, 2004).

### **1.1.1 Technical and vocational education in Nigeria**

Technical and vocational education is an aspect of education which prepares its recipients with skills, knowledge and attitudes necessary for effective employment in recognised occupation (Osami, 2013; Yusuf, 2006). According to Odogwu (2005)

vocational and technical education stresses preparation and participation for social value; it is pragmatic thus trains both the head and the hands (Oranu, 2009). In the Federal Republic of Nigeria National Policy on Education (2004) vocational education is further described as being a characteristic of education that promotes the acquisition of hands-on skills and applied scientific knowledge.

According to Jacob (2006) during the Colonial era little emphasis was placed on technical and vocational education to produce individuals that were adequately skilled, confident and properly oriented towards self-reliance. Jacob further attributed the low attention to technical and vocational education to the high level of youth unemployment till date. However, as reported by Nworise (2006) attempts were made by government to introduce vocational and technical education into the school system as far back as 1847 with the recommendation of the Privy Council to the Colonial office. The committee recommended among other things that Nigerian schools should:

- Provide a channel of improving the conditions of the peasantry by educating them how health may be well-maintained by appropriate nutrition, hygiene, airing and clothing;
- Give practical training in household economy and in the cultivation of the cottage garden as well as those common hand crafts by which a labourer may improve his/her domestic comfort.
- Provide improved agriculture to replace the system of exhausting the virgin soil and leaving it to natural influence to repair.

According to Osami (2013) in the traditional period vocational programmes included: metal smelting, weaving (cloth and mat), dyeing, pottery, leather work, bead making, wood carving and canoe carving, artistry, agricultural activities, singing and dancing. Others included: music, hair styling, tattoo or body art and hunting. He further added that the recent vocational curriculum which has been enlarged includes carpentry and joinery, furniture making, baking, shoe making and repairs, dress making, sign writing, photography, metal work, hairdressing, fashion design, fabrication, motor mechanic work and electronic servicing. Other subjects include: mechanical engineering, building, home economics, advanced agriculture and secretarial accounting work. The application of science and technology in training of the modern trades and crafts led to it being referred to as technical and vocational education (NPE, 2004). The objectives of technical and vocational education in Nigeria are such that if properly

implemented will impact on technological development in Nigeria. As outlined in the policy, the objectives include, among others, the training of individuals particularly at professional grades, the provision of technical knowledge and vocational competencies and providing training and skills that lead to the making of craftspeople, specialists and other trained personnel (NPE, 2004).

Achieving the goals stated in the national policy will be impossible if the students are not properly trained; it is in this light that Osami (2013) contends that effective training can only be accomplished in a conducive environment adequately equipped with the necessary requirements. According to Osam, such requirements include qualified and adequate numbers of teachers, well equipped workshops and laboratories with modern tools and equipment. Omekwe (2009) argues that effective implementation of any educational programme requires the provision of human and material resources made available to the institution of learning.

### **1.1.2 Importance of technical and vocational education**

Technical and vocational education as a means of social, economic, technological and national development has been a major debate in many spheres in Nigeria and other nations of the world (Ladipo, Akhuemonkhan, & Raimi, 2013; Ojimba, 2011; Uwaifo & Uddin, 2009). Technical and vocational education otherwise known as Technical and Vocational Education and Training (TVET) according to World Bank (2008), Besmart-Digbori (2011) and Dangote (2013) is the brain behind technological advancement and economic fortune of developing countries across the globe. According to Raimi and Akhuemonkhan (2014), for Nigeria to meet with other developed nations of the world, there is a need to deploy adequate human and material resources into TVET as a worthwhile education. They further asserted that post-independence zeal towards TVET by the Nigerian government after adoption of the TVET yielded positive results. Products of TVET institutions worked as engineers, middle-level officers and technicians in a number of firms in Nigeria. Considering this promising impact of TVET, Nigeria was regarded in the early 1970s as one of the 50 rich countries in the world, but later degenerated to be one of the most poverty-ridden nations in the early 2000s (Igbuzor, 2006). This decline was influenced by many factors, among which indifference towards TVET in preference for general education is a key factor (Ojimba,



2011). As confirmed by the Federal Ministry of Education (FME) (FME 2005), in the growing population of Nigerian students, a total of 74.3 per cent chose conventional education in universities, whilst 18.71 per cent enrolled for vocational education in the polytechnics.

The preference for conventional education to vocational education triggered massive youth unemployment, growing poverty rates, hopelessness, youth restiveness and low pace of national progress in Nigeria because graduates from conventional or general education lacked the practical skills needed in the world of work (Raimi & Akhuemonkhan, 2014). According to the National Bureau of Statistics (2011) and the Central Bank of Nigeria, the poverty and unemployment rates in Nigeria as of recent are 72% and 23% respectively.

According to NPE (2004) and FME (2005) TVET was prescribed by policymakers as a practical education choice for re-directing the nation towards sustainable development, poverty mitigation, responsible citizenship, industrial progress and economic advancement. Considering the experiences of the Koreans and Asian Tigers whose economies were changed from regressive states to frontline nations, Dangote (2013) endorsed TVET as a necessary paradigm for Nigeria's industrial advancement.

If TVET in Nigeria must be a tool for technological development, then it must equip its recipients with both technical and soft skills that allow for flexibility and the ability to work across a wide range of work (Caleb & Udofia, 2013). Caleb and Udofia suggests that TVET in Nigeria needs to prepare its graduates with skills that go beyond taking up immediate employment, but with skills that enhance the employability of its graduates so they can adapt to different jobs throughout their life time. This notion is in agreement with Brown and Hesketh (2004) who defined employability as the ability to secure and sustain different jobs. According to Caleb and Udofia (2013), the heart of employability lies on soft skills; these skills acts as a base for the development of industrial skills that allows for adaptability to new work environments and development of new skills while on the job. The need for a flexible workforce brought about by a dynamic environment is on the increase (Smith, Ford & Kozlowski as cited in Caleb & Udofia, 2013). Technological industries are in dire search for innovative solutions with emphasis on employees with creative skill, reasoning skills, ability to work in a group and work experience. There is a great question as to how relevant the school curriculum is to meet these requirement outlined by industry (Caleb & Udofia, 2013). In agreement

with this, is Ajufo (2013) who attributed lack of employability skills to inappropriate school curricula.

Considering the current emphasis on the relevance of Technical College curricula to present day industry, this research is clarify the skills needed by Technical College graduates in Ahoada, Rivers State, Nigeria.

## **1.2 RESEARCHER'S BACKGROUND**

With experience gathered over the years both as a graduate and a lecturer, and from literature on the high rate of youth unemployment, my curiosity has awakened regarding the need to correlate skills offered by Technical Colleges and industry demand.

The researcher's background on employability skills for Technical College graduates is informed by my experience as a graduate and Lecturer in the School of Technical Education. Retrospectively, during my undergraduate studies, student enrolment in the department Technical Education was poor. This was because the course was ill perceived. Many considered it non-lucrative.

In the same vein, as a lecturer in School of Technical Education who has functioned both as a research and industrial training supervisor in the last 7 years, I have noticed that graduates of technical institutions find it very difficult to secure employment; Technical Colleges happen to be one of the technical institutions in Nigeria. The reasons for this are anecdotal, but most students cite the difficulty of Technical institution graduates in finding gainful employment, and lack of qualified technical teachers.

To satisfy my curiosity, and to scientifically investigate the perceived low enrolment of students in technical and vocational education, as well as their employability problems, I have embarked on a questioning and systematic enquiry into employment requirements for graduates in Rivers State, Nigeria. I wish to find better approaches to the organisation and teaching of technical courses in the educational system.

## **1.3 PURPOSE OF THE STUDY**

There have been several opinions expressed by different individuals on how to make an average Nigerian child self-reliant and independent. One school of opinion is that it should guarantee equality of opportunities for youths of different abilities, interests,

aptitudes and skills. But the primary function of vocational/technical education programme has been and will continue to be the supply of middle-level human resources to the labour market.

Consequent upon this, this research intends to explore if there is an interface between skills acquired by Technical College graduates and the skills required by the engineering and construction industries with respect to their employability. A study such as this is necessary in describing the situation surrounding the defining and development of employability skills. The study is necessary because it will unveil the industrial requirements with respect to employability skill need of Technical College graduates which could inform policymakers in planning of the Technical College curriculum.

#### **1.4 OBJECTIVE OF THE STUDY**

The study aims to explore the nexus between skills acquired by Technical College graduates and the skills required by industries for employability. To achieve this aim, the overall objective is sub-divided into specific goals:

- i. To identify employability skills as recommended by the National Policy on Education (2004) and Senior Secondary Education Curriculum (2008) for Technical Colleges in Nigeria.
- ii. To explore staff and students' perception on employability skills for Technical College graduates.
- iii. To explore industrial perspectives on employability skills for Technical College graduates.
- iv. To examine the findings in (i), (ii) and (iii) above, to check for interface if any, between skills acquired and skills required.

#### **1.5 RESEARCH QUESTIONS**

According to Creswell and Miller (2000), research questions are referred to as statements used by researchers to focus on a particular objective to provide answers to an investigation. In order to achieve the objective of the study, the following questions shall be asked;

1. What are the sets of skills graduates from Technical Colleges need for employability as:

- a) Recommended by the Nigeria National Policy on Education (2004) and the Senior Secondary Education Curriculum (2008)?
  - b) Perceived by teachers and graduates from Technical Colleges?
  - c) Required by employers of Technical College graduates?
2. Is there an interface as defined by the above stakeholders? If so, what is its nature?

## **1.6 CONTEXT OF THE STUDY**

River State is one of the thirty-six states in the Federal Republic of Nigeria, geographically located in the Eastern part of the Niger Delta region, one of the oil rich states in south Nigeria (Igben & Akobo, 2007). Out of the one hundred and ten state Technical Colleges in Nigeria, Rivers State plays host to three of them (National Board for Technical Education website 2014)

Technical Colleges are categories of secondary schools in Nigeria where students acquire training in various trades. According to Okoro (2006), Technical Colleges as principal vocational institutions in Nigeria have the capacity to deliver full vocational training to equip their graduates with the appropriate entry requirements into various occupations as artisans and craftsmen. Technical Colleges are charged with the preparation of craftspeople and technicians who excel in several occupations (Bakare, 2009).

Graduates of Technical Colleges according to Nigerian National Policy on Education (2004) are expected to possess skills in mechanics' work, agricultural implements and equipment, auto electrical work, auto-body repair and spray painting, part-machining, mechanical engineering craft practice, welding and fabrication, instrument mechanic's work, electrical installation and maintenance work, radio television and electrical work, air conditioning and refrigeration, engineering craft practice, foundry craft practice, block laying, bricklaying and concrete work, painting and decorating, plumbing and pipe fitting, carpentry and joinery, furniture making and upholstery, automobile engineering practice. Also included are dyeing and bleaching, catering craft practice, printing craft practice and cosmetology, leather goods manufacture including shoe making and repair, data processing, store-keeping and book-keeping, stenography, typewriting.

## 1.7 SIGNIFICANCE OF THE STUDY

It is expected that the findings of this study will awaken research interest, awareness and challenges in all the aspects of Technical and Vocational Education and Training (TVET) in Rivers State in particular, and Nigeria in general. Specifically, this study will be valuable to those involved in skilled human resources development as it could inform policy makers on the skills required to sustainably boost the development and advancement of Technical College programme in relation to industries in Nigeria, for consideration when reviewing the content of the Technical College curriculum. It is imperative for policy makers to listen to the industries that are the primary employers of graduates from Technical Colleges and then develop curriculum that is consistent with such industries, and so achieve the educational goals of such a programme. In a nutshell, this study will be beneficial to graduates of and educators in Technical Colleges regarding the skill needs of industry. More importantly, the impact of this work will be felt more at the local and state levels if properly implemented.

## 1.8 CLARIFICATION OF TERMS

Considering the meaning attributed to some of the terms, it is necessary to define the terms used throughout this study, and this is further discussed below in the context of the study.

**Interface:** As used in this study, interface is construed as the point of interaction (convergences and divergences) between policy documents, teachers, graduates and employers in respect of skills required from Technical College graduates (Singh-Pillay, 2010).

**Graduates:** Graduates are used in different context to refer to anyone who has successfully completed training in any given field either in education or another programme. In this study, graduates are used to describe the products of Technical Colleges who have effectively undergone three years training in Technical Colleges.

**Employability:** the relative capacity of an individual to achieve meaningful employment given the interaction of personal circumstances and the labour market (Canadian Labour Force Development Board as cited in McQuaid & Lindsay, 2005).

**Employability skill:** “a set of achievement, skills, understanding and personal attributes that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy” (Knight & Yorke, 2004).

**Skill:** The ability of an individual to perform an intellectual or physical task is referred to as skills (Ivancevich, Konopaske, & Matteson as cited in Kreiner, Hollensbe, & Sheep, 2009).

**Stakeholders:** the various components selected for this study. It refers to the policy documents, teachers, graduates and employers.

**Technical and Vocational Education and Training:** Also referred to as Technical and Vocational Education and Training (TVET) is the aspect of the educational process delivered in addition to general education focusing on the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge which are industrially oriented in diverse sectors of economic and social life (NPE, 2004; UNESCO, 2008).

**Employer:** Any organisation or individual that employs graduates particularly graduates from Technical Colleges.

**Triple Helix model:** the triple helix model is a model analysing the linkage between academia, industries and government. It is a model that agitates for an improved and increased relationship among various organisations in an industrial economy’s innovation system especially academia, industry and government. Trilateral networks develop between the three components whereby each organisation assumes the responsibility of the other as they form a fused organisation (Leydesdorff, 2012).

## 1.9 OUTLINE OF THE STUDY

In Chapter 1 of this study, I presented the background and context of the study; researcher's background; purpose of the study; objective of the study; critical research questions; context of the study; significance of the study, research methodology, clarification of terms. Subsequent chapters will present:

**Chapter 2:** The theoretical framework that guided this study.

**Chapter 3:** Outlined in this chapter are geographical and demographic description of Nigeria, a literature review by scholars on contentions, debates and current trends in regard to Technical and Vocational Education in Nigeria; also reviewed is the employability skills concept worldwide, and the global experience on employability of school graduates.

**Chapter 4:** This chapter presents the research design and the methodology used in answering the research questions set for this study.

**Chapter 5:** Data gathered in this study were presented and analysed in this chapter to answer the first research question.

**Chapter 6:** Analysis of the second research question is presented in this chapter.

**Chapter 7:** Finally, this chapter provides the discussion and recommendations arising from the study.

## **CHAPTER 2**

### **THEORETICAL FRAMEWORK**

The framework employed to ground this study is the Triple Helix model, also known as Triple Helix III. Unlike its predecessors, the Etatistic (Triple Helix I) model, which foregrounds the lead role of the state in directing the relationship between academia and industry which invariably creates no room for innovation, and the Laissez faire (Triple Helix II) model with strict definite boundaries which foregrounds individual competition rather than collective cooperation among institutional spheres in relation with one another respectively, the Triple Helix III model foregrounds the enhanced role of the university in innovation in the knowledge-based economy. Prior to elaborating the Triple Helix III model, it is appropriate to briefly outline what the other two models embrace in order to understand adequately its emergence in 1996. In the following section I provide a brief outline of Triple Helix I-Etatistic Model, followed by Triple Helix II-Laissez faire Model. After that I provide an overview of the Triple Helix III model. Finally, I conclude the chapter by summarising how Triple Helix III came into existence and its applicability and suitability to this research study.

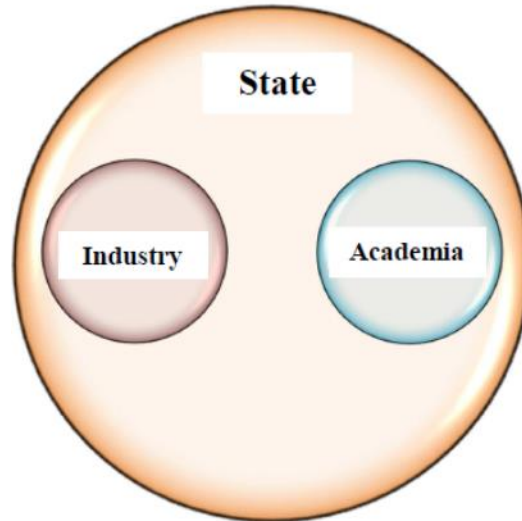
#### **2.1 AN OVERVIEW OF THE HISTORICAL ANTECEDANTS THAT PRECEDED THE TRIPLE HELIX III MODEL**

##### **2.1.1 Triple Helix I – Etatistic Model**

The institutional configuration of university, industry and government within Triple Helix I, according to Etzkowitz and Leydesdorff (2000), is such that both academia and industry are bounded under the jurisdiction of the state which in turn coordinates what transpires within the system. The robust form of this model is said to be found in the former Soviet Union and Eastern European countries under “existing socialism” while the frailer forms were articulated in the policies of several Latin American countries and to some point also some European countries such as Norway during a period when industries were mainly owned by the state (Etzkowitz & Leydesdorff, 2000). Figure 1



below depicts a typical configuration of the Etatistic Model of University-industry-government relations.



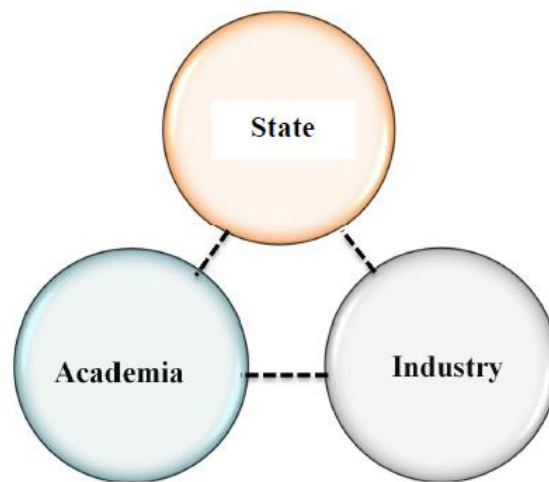
**Figure 1: An Etatistic Model of University-Industry-Government relations**  
(Etzkowitz & Leydesdorff, 2000)

The government is expected to assume the leading role in coordinating and providing resources for new initiatives, while industry and academia rely on the support of government. Brazil's science and technology policies of the 70s and early 80s, is a case in point, where the government organised large-scale technology projects and raised the level of research at universities in order to support the creation of new technological industries such as computer and electronics, concomitantly to affect regional development (Etzkowitz, 2003). In Europe, companies such as the Bull computer or Aeropatiale in France, offer a good example of this model, where companies operating as separate entities are expected to be dominant leaders in particular technological fields with support from government. Universities, although they may conduct research, are not expected to play any role in the creation of new enterprises. They are merely seen as the major producers of trained persons who function in other institutional spheres. However, as argued by Mustar and Larédo (2002) there have been transformations in the expectations of the classic statist regime in France. For example, the incubator movement in Brazil was a product of free exchange of ideas initiated by academic associations during the military regime (Etzkowitz, 2003).

In the following section we turn our gaze on the Triple Helix II model.

### 2.1.2 Triple Helix II – Laissez-faire model

The Triple Helix II model emerged from Triple Helix I. It constitutes three separate institutional spheres, namely, the state, academia, and industry. These spheres are characterised by independent competitive existence rather than a co-operative one. The severe separation of those three spheres leads to contracted responsibilities for the institutions, strong boundaries, and standards for justifying interactions between the institutional spheres (Etzkowitz, 2000). As a result, the interaction between the university, industry and government in the laissez-faire model is highly constrained. The three institutions that constitute the Laissez-faire model are depicted in the Figure 2 below:



**Figure 2: A “laissez-faire” model**  
(Etzkowitz & Leydesdorff as cited in Mongkhonvanit, 2008)

The role of academia in this model is confined to the provision of basic research and trained persons; and its contribution to the industry comes in the form of supply of knowledge, publications and graduates who indirectly apply the knowledge gained to their jobs (Etzkowitz, 2000). It depends upon industry to find and apply useful knowledge from the universities without much assistance and coordination (Etzkowitz, 2003). The role of the government is limited, except in very rare cases such as market failure. In the event of such circumstances prevailing, the government is expected to intervene and provide financial support to fund research at universities (Etzkowitz, 2003).

Etzkowitz and Leydesdorff (2000) argued that the configurations of Triple Helix I and II seem to have some discrepancies as they have spawned normative awareness. In other words, there is clamour for a model that will address the discrepancies of Triple Helix I and II. In particular, the Triple Helix I model has been branded as a failed development model due to its failure to accommodate “bottom up” initiatives and its discouragement to innovation. The Triple Helix II model, on the other hand, has tried to curtail the responsibilities of the state which Triple Helix I exhibited. It is on these grounds, that these two models were considered inappropriate to foster technological growth that would transform society. A new model, encouraging a trilateral collaboration among institutional spheres, had to be sought, and it emerged in the form of Triple Helix III. In the following section, I discuss this model in detail.

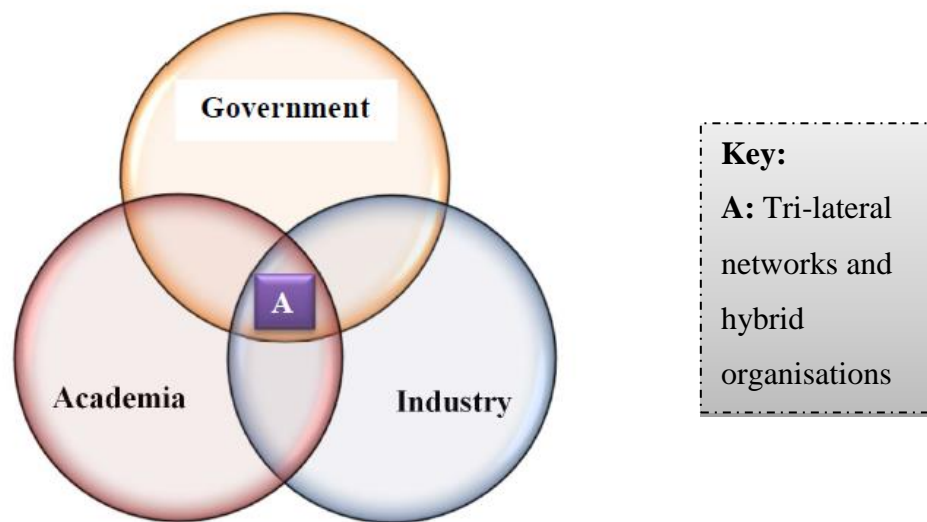
### **2.1.3 Triple Helix III**

The Triple Helix model, encouraging a trilateral collaboration among institutional spheres, namely, university, industry and government, came into prominence in Amsterdam in 1996 through the advocacy of Professor Henry Etzkowitz of Newcastle University, and Professor Loet Leydesdorff of the University of Amsterdam ("Triple Helix Research Group," 2014). It is a trilateral network of institutional spheres that encourages collaboration among each other, whereby one of the institutions assumes the role of another while maintaining its status. According to Etzkowitz and Leydesdorff (1997) it is a model for interpreting the mutable role of universities in the knowledge society which agitates for a participatory rapport with other institutional actors in the developed market, particularly the industry and government.

Unlike the Etatistic and Laissez faire models, academia the Triple Helix model foregrounds the enhanced role of the university in innovation in the knowledge-based economy. In other words, the university in collaboration with industry and government have equal roles to play in stimulating innovation in a knowledge-based economy (Leydesdorff, 2000). In this regard, Leydesdorff argues that universities should not confine themselves to teaching and basic research, but move beyond this to innovative applied research which can lead to wealth creation and entrepreneurial activities.

According to Etzkowitz, Dzisah, Rang and Zhou (2007) the Triple Helix Model as depicted in the Figure 3 constitutes three basic elements:

1. A more *prominent role for the university* in innovation on par with the industry and government;
2. A *trilateral collaborative relationship* between institutional spheres, whereby the outcome of a given policy is the product of the three institutions rather than coming from one of the institutions; and
3. An *assumption of each other's role* in conjunction to fulfilling their designated roles.



**Figure 3: Triple Helix Model of University–Industry–Government Relations**  
(Etzkowitz & Leydesdorff, 2000)

Etzkowitz (2003) posits that for the purpose of stimulating a sustainable innovation, four stages are prominent in the Triple Helix of university, industry and government relations, namely:

1. Internal transformation within each of the institutional organisations;
2. Influence of one organisation upon another;
3. Hybrid organisation resulting from the trilateral networks and interactions of the three organisations; and
4. A recursive influence of Triple Helix links both on the helices from which they developed and on broader society.

The configuration of the Triple Helix of university-industry-government is such that the university is recognised as a central character in the analysis of the contributions

of higher institutions in a society where knowledge is considered the panacea to economic development (Etzkowitz & Leydesdorff, 2000). In one way or the other, most countries and regions of the world seem to mirror the Triple Helix III structure. The reason is to realise an innovative environment consisting of university spin-off firms, tri-lateral initiatives for knowledge-based economic development, strategic alliances among firms and other players, government laboratories, and research collaborations. Rather than controlling what happens in this configuration whether directly or indirectly, the government encourages innovative environment by making available facilities that stimulate innovation (*ibid*).

#### **2.1.4 Triple Helix III and its applicability to this study**

The Triple Helix III (TH III) model of university, industry and government relations is considered the most suitable for this study; the reason is because the framework comprises the three institutions which the study foregrounds namely, academia, industry and government. The principal focus of the TH III model is an enhanced role for the university in a knowledge-based society in relation with the industry and government. At this stage the study will be considering an academic institution at a lower level than the university – the Technical College. In other words, the issue of R&D will not be part of the study which is at the heart of the THM, but may consider other areas of collaboration. More so, the model will be used to x-ray the type of collaboration that exists between Technical Colleges, industries and government in preparing employable Technical College Students.

Considering the extent of technological revolutions and the demand for skilled workforce all over the world, the need for a collective collaboration among academia, industry and government should be strengthened. According to Lee (2014), one of the major reasons why the European Union reorganised their higher education sector was to stimulate and improve cooperation between higher education and industry. This was done to produce a more skilled and knowledgeable workforce.

There is need to focus on the cooperation between academia, industry and government in terms of human capital development, impact and outcome, and the role of academia in bringing about the desired change in the society (Lee, 2014).

In the past, the principal focus of academia-industry relations has been on research related projects without any direct impact on teaching and learning, for instance the

invitation of an industrial collaborator to a university to deliver lecture, or host field trips, among others (Healy, Perkmann, Goddard, & Kempton, 2014).

Conversely, Healy et al. (2014), argued that growing industries and universities have seen the need to equip the next generation with the skills needed to meet the challenges of global technological change in order to close the gap of skills mismatch and global competition. They further stressed that apart from research related projects, the other areas in which universities/academia can share corporate responsibilities include:

1. Designing, development and delivery of the curriculum: industry and university coming together to deliberate, design and work out the modalities of a given program based on the areas of interest of both parties;
2. Bespoke course development: designing the school program to meet the prospective need of the employer;
3. Exchange and mobility programmes: encourage the movement of university staff and students between the school or university environment and industry;
4. Continuing education and lifelong learning: in keeping with the dynamics of labour market skills demand and response to technological changes, employers and employees devise means of being current with global trends. This can be achieved through continuing education and lifelong learning which tends to focus on vocational or professional training; and
5. Entrepreneurship and entrepreneurial education: training or providing students with business experience through placement in small medium enterprises, abilities that will guarantee them self-dependence, grants in addition to monetary assistance, professional industry advice, among other things.

Healy et al. (2014) further add that there are three major participants in academia-industry relations namely, university, student and industry; others may include university and industry staff, and organisations that may support and stimulate such collaborations through the provision of funding and facilities as needed.

However, the main aim of academia-industry collaboration for these three key participants, according to Healy et al., (2014) revolves around common purposes. For students it is their prospective welfare and employability; for university and academic staff it is to increase students' likelihood for prospective employment, raising the university profile, up skilling of staff, among others; for industry it is directed towards

securing a more appropriately qualified supply of labour, either by way of technical knowledge or by the development of ‘softer’ skills, and to gain access to potential employees, among others. In this study, we shall be looking at the role of these three stakeholders, academia, industry and government in preparing qualified and employable graduates from Technical College.

The Triple Helix III model employed for this study offers a better approach to understand the type of relationship that exists between academia, industry and government. For the purpose of this study, the THM of University-Industry-Government will be represented as follows: the university will be replaced by Technical College, industry by employer, while the government remains what it is. This will therefore be interpreted as Technical College-Employer-Government relations. The focus of the study is to understand if an interface exists between skills acquired by Technical College graduates and the skills required by employers with respect to their employability. Data collected from the three key participants namely, Technical College staff and graduates, and employers as highlighted above will be analysed to understand the type of collaboration that exists among them.

## **2.2 CONCLUSION**

This chapter offered an insight to the theoretical framework underpinning of this study – the Triple Helix axis of university-industry-government relations. This framework contends that innovation in a knowledge-based society can only be achieved when the university is ascribed a prominent role in relation with industry and government. Discussed in this chapter was an overview of the historical antecedents that preceded Triple Helix III model. Firstly the Triple Helix III was traced to its first emergence as the Etatistic model otherwise known as Triple Helix I where academia and industry operates under the state. Secondly, too much control of the state over academia and industry led to the emergence of the Laissez-faire model which was introduced to curtail the control the state had over academia and industry. Also discussed in this chapter is the applicability of the Triple Helix III framework to this research study.

The next chapter presents a review of related literature on debates and issues raised by scholars on graduates’ employability locally and internationally.

## **CHAPTER 3**

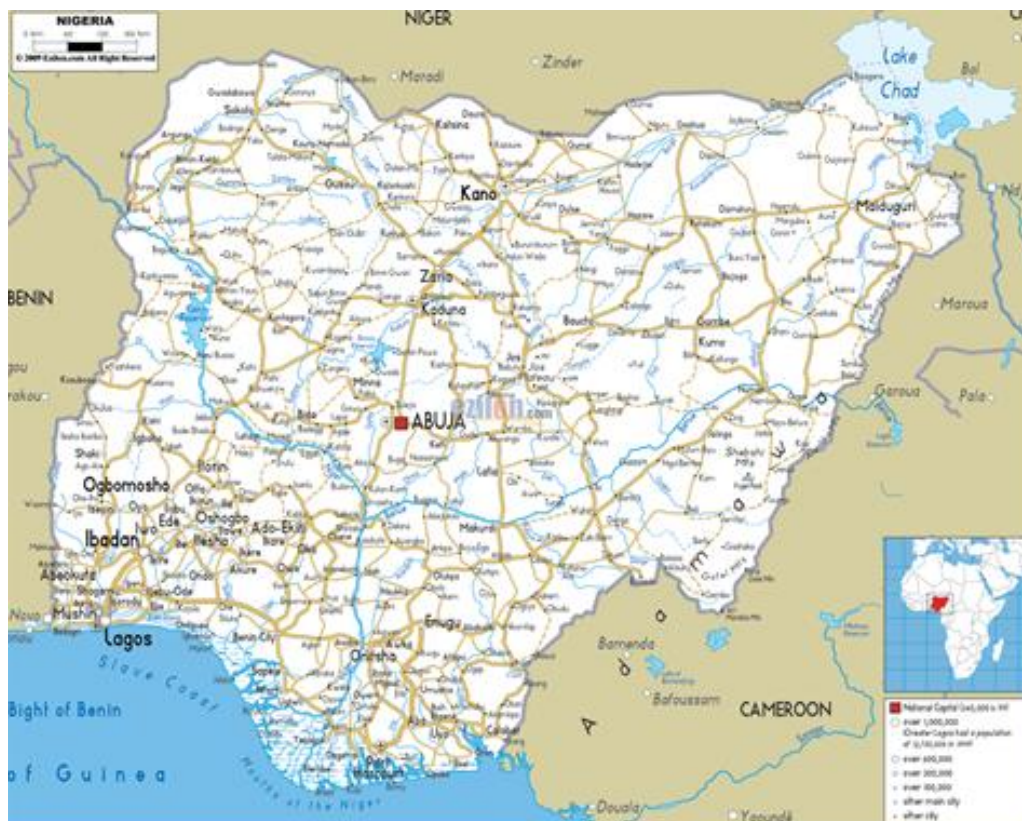
### **LITERATURE REVIEW**

This chapter presents a review of related literature in the context of the study. Presented is a geographic and demographic description of Nigeria, literature review of scholars on contentions, debates and current trends on Technical and Vocational Education in Nigeria, on the employability skills concept worldwide, and on the global experience of employability of school graduates.

#### **3.1 GEOGRAPHICAL AND DEMOGRAPHICAL DESCRIPTION OF NIGERIA**

Geographically, Nigeria is located in West Africa (Figure 4). It lies approximately between latitude 40° and 140° north, and longitude 30° and 150° east. Nigeria has a land mass of 923,768.00 square kilometres. It is bounded in the west by the Republic of Benin, in the north by the Republic of Niger, in the north-east and in the East, Nigeria shares borders with Chad Republic and Cameroun respectively. The Nigerian nation is made up of 36 states and the Federal Capital Territory (FCT) Abuja. The population, according to the 2006 national population census, is about 140 million officially comprising three major tribes and languages namely; the Yoruba, Hausa and Igbo (Ndujihe, 2013).





**Figure 4 Map of Nigeria**  
 (<http://www.mapsofworld.com/nigeria/nigeria-location-map.html>)

### 3.2 THE NEED FOR TVET IN THE NIGERIAN SCHOOL SYSTEM

The extent of ground-breaking changes experienced around the globe portrays that the future cannot be anticipated when it comes to education, skills and competences which have up until now been considered the foundation of economic, social and political mobility and growth (Okolocha, 2012). This view was supported by Romer (1990) who states that any country highly populated with educationally high literate citizens is a fertile soil for information based technology.

There have been changes at different levels of the Nigerian education system, and these changes are all reflected in the Nigeria education policy (NPE) (Okolocha, 2012). According to Abrar, Baloch and Ghouri (2010, p. 23), the essence of all the changes experienced in the educational system of Nigeria is to address the issue of inequality in the provision of education in different parts of the country with regards to access to quality education.

The system of education operated in the 70s and 80s only gave room for the acquisition of a certificate rather than the needed vocational skills, and this led to the

invasion of youth and adults into the education industries in pursuit of certificates (Okolocha, 2012). The invasion which led to the increase in population of students was described by Moja (2000) as growth in size but not in quality. The education system operated in Nigeria and some other advanced nations of the world lack the capacity to prepare students for the modern world (Moja, 2000).

The extent of technological growth which the world experiences in the 21st century poses a lot of difficulties for education and employment. So many school leavers are left unemployed even with their certificates due to the new labour market demand (Okolocha, 2012). The high rate of jobless graduates and rapid technological growth around the world has led to education transformations with an emphasis on technical and vocational education with the aim of positioning youth and adult to be self-reliant (ibid).

According to Alhasan and Tyabo (2013), one of the major tools to fight the menace of unemployment amongst the youth is the introduction of technical and vocational education which will guarantee them jobs and an income and guard them against the risk of outmodedness.

The next section brings to the fore definitions of TVET.

### **3.2.1 Meaning of TVET**

Technical and vocational education is used as a broad term referring to those facets of education that encompass the study of technologies and related sciences and the acquisition of hands-on skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life (FGN, 2004). It is further understood as: an integral part of general education; a means for preparing for occupational fields and effective participation in the world of work; an aspect of lifelong learning and preparation for responsible citizenship; an instrument for promoting environmentally sound, sustainable development and a method of alleviating poverty. UNESCO and ILO in Badawi (2013 p. 284) defined TVET as:

A comprehensive term referring to those aspects of the educational process involving, in addition to general education the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life.

Dike (2009) defined technical and vocational education as an aspect of training which leads its recipients to the acquisition of competencies as well as scientific knowledge. However, technical and vocational education is also understood as an education that familiarises its learners with practical knowledge that could yield national gains (Audu, Musta'amal, Kamin, & Saud, 2013).

The shared classifications of TVET according to Wahba (2010), Ladipo, Akhuemonkhan and Raimi (2013) in literature include: Technical Education (TE), Vocational Education and Training (VTE), Apprenticeship Training (AT), Vocational Training (VT), Career and Technical Education (CTE) and Occupational Education (OE). For comprehension and understanding, these terms shall be used interchangeably in this study. The implication of the different definitions stated above is that TVET is synonymous with employability and national development (Raimi & Akhuemonkhan, 2014). According to Maclean (2011) TVET has the transformative capacity that guarantees its students the right to quick employment. Having considered the different meaning of TVET, the next section will look into the national objectives of TVET in Nigeria.

### **3.2.2 National objectives of TVET in Nigeria**

The government of the Federal Republic of Nigeria identified the following as the aims and objectives of TVET (National Policy on Education; 2004, pp. 30-31):

- Provide trained personnel in the applied sciences, technology and business particularly at craft, advanced craft and technical levels;
- Provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development; and
- Give training and impart the necessary skills to individuals who shall be self-reliant economically.

Nonetheless, education in Nigeria is construed as an instrument “per excellence” for effective national development (NPE, 2004). The NPE has among the objectives set for the Technical College institutions to enable their graduates to be immediately employable after undergoing the programme. However, since the inception of the policy, there have been major barriers to effective implementation of the policy ranging from lack of TVET facilities and equipment to a dearth of qualified technical personnel among others (Ammani & Ogunyinka, 2011).

Thus, Technical College programmes today lack the capacity of equipping its graduates with the necessary skills required for effective employment in different trades. The implication is that the goal of Technical College programmes which centre on making their products immediately employable stands defeated; thereby this depicts a miserable future for the achievement of the lofty goals of the National Policy on Education. This can explain why, in spite of the three Technical Colleges in Rivers State, there is still a high level jobless youth in the streets without any useful impact on national development.

### **3.2.3 Quality assurance**

According to Igborgbor (2012) quality assurance (QA) denotes routine measures premeditated by the authorities for evaluating the performance of training institutions with a view to ensuring its beneficiary's outcomes meet the needs of the society. Consequently, quality assurance could also mean established procedures that support and ensure effective delivery of educational services (Kontio, 2012). Consequent upon that, an active QA should concentrate on basic rudiments such as access/participation, funding, relevance and quality of TVET (King, 2011). The relationship between the elements stated above can best be achieved through effective monitoring and evaluation of its supply, demand and financing elements (King, 2011; King & Palmer, 2008). To achieve quality in TVET, all parties involved must be abreast of, and understand and embrace, the standards established (Morris, 2013). The Lao People's Democratic Republic (PDR) (2011, p. 1) viewed QA for education as:

the process of monitoring and assessment in line with the defined requirements. The quality assurance system helps an institution gain confidence in its quality and gain increase in public trust. QA may be undertaken by an internal agency or through a TVET institutions own internal quality management systems (QMS). QA whether external or internal and irrespective of how is defined requires benchmarks against which qualifications, courses and providers can be assessed.

Using the example of Lao PDR, Morris (2013) posits that QA in TVET is a potent tool for the development of this type of education both locally and globally. In furtherance of that, the need for quality TVET is on the increase, therefore the delivery systems are more conscious of this element (Morris, 2013).

In recognition of the worth of QA to the educational system, the government of Nigeria in the National Policy on Education (2004) established Inspectorate Services to enforce quality assurance in educational institutions. The purpose of this is to guarantee that the standards and values of education are strictly regulated, sustained and improved by training institutions in consonance with the dynamics of the society and industry (Mohsin & Kamal, 2012; Onyesom & Ashibogwu, 2013).

### **3.2.4 Funding TVET in Nigeria**

Funding technical and vocational education is very expensive due to the fact that it demands innovative machines which are necessary to the accomplishment of its set goals and objectives (Ziderman, 2003). In recognition of this and the place of TVET in national development and its cost-intensive nature, the Government reiterated its effort to provide funds for the administration of TVET in Nigeria (NPE, 2004). However, this has not been sufficient as King (2011) reports that funding of TVET in different parts of the world has been inadequate, but this trend is worse with third world countries. Research results from Pakistan show an imbalance in funding, as the majority of respondents yielded their opinions to the fact that TVET totally lacks funding (Akhuemonkhan & Raimi, 2013). One of the barriers to effective implementation of TVET programmes in Nigeria is the issue of funding from government and donor agencies (Ladipo et al., 2013). A study by the World Bank indicates that most public TVET institutions in Sub-Saharan Africa face the challenge of inadequate financing from government, and this impedes on the quality of such programme (Ziderma as cited in Kamau, 2013)

### **3.2.5 Status of TVET**

In spite of the rewarding benefits of TVET, it is still misunderstood by most people in society (Akhuemonkhan & Raimi, 2013). Many members of society consider vocational education as being a form of education designed for the academically disadvantaged (Ladipo et al., 2013). According to Okolocha (2012) some Nigerians interpret VTE as low quality training appropriate for less fortunate students or second class citizens. The low status of TVET is traceable to the greater pursuit for general 'white collar' jobs than 'blue collar' jobs, as many parents see the latter for those who are frail academically (Essel, 2013). Amodu (2011) in agreement with the submissions of Essel and others argues that the deprived status experienced by TVET goes beyond the

ordinary society members within the Nigerian populace to policy makers. This status leads to: low general assessment of TVET in the society; gross gender disparity in TVET enactment; insufficient human, material and financial resources for TVET establishments. Having discussed the negative perception of TVET and its implication, the next section presents the implications regarding the human, material and financial resources which are needed for effective TVET delivery.

### **3.2.6 TVET facilities and equipment**

According to Idialu (2007), for effective TVET delivery there is a need for adequate provision of facilities in terms of building infrastructure and equipment to ensure quality training in TVET. One of the inhibiting factors to effective implementation of the TVET curriculum in Nigeria technical institutions is the lack of space. This argument is maintained by Abassah (2011) who contends that a good number of Technical Colleges experience inadequacy in terms of workshops, even when teachers are ready to carry out their primary responsibilities. He further submits that the challenges of the not having technical equipment in some Technical Colleges is due to the lack of workshop space to install them when supplied. Savage and Brennan (2011) remarked that most training institutions in Afghanistan are equipped with modern equipment and training materials to execute their training programmes; however, they argued that the effectiveness of any TVET institution lies in the provision of training facilities and equipment. In collaboration with this, Idialu (2007) remarked that most training institutions in Nigeria are bedevilled by lack of training equipment, workshop and its facilities, and ill equipped laboratories. According to Afeti (2009), if TVET must yield its intended objectives, there is need for adequate provision of training facilities and appropriate workshop equipment that guarantees quality training in TVET institutions.

### **3.2.7 The organisation and administration of TVET**

One of the prerequisites that must be met according to Berhe (2011) is the presence of an active management, especially human resource management. Individuals need to be managed the same way that materials, equipment and information are managed. If quality is to be pursued and achieved in TVET at all levels, then consideration must be given toward constituting a board with highly competent administrators and supervisory

personnel to oversee the affairs of TVET in the State. Part of the challenges encountered in the implementation of TVET policies has its with school heads such as school principals; the reason being that they are products of general education and as such they tend to place priority on general education which thus inhibits the quality of TVET in the system (Akamobi, 2005).

### **3.2.8 TVET curriculum reform and development**

Planning a training programme that will facilitate superior vocational competencies demands the participation of the training provider and the industrial community in recognition of the benefits of such programmes (Wallenborn, 2010). The disparity in skills acquired in TVET institutions and skills required in the labour market could be attributed to a supply-driven approach and low stakeholder participation in planning and designing the training programme (Kitainge as cited in Ngure, 2013). Industrial development in different parts of the world has been retarded due to TVET curricula that are not responsive to the need of industries/labour market (Maclean & Lai, 2011). According Syed Hussain cited in Ali, Long, Zainol and Mansor (2012), TVET graduates fall short of employers expectations because of the defective TVET curriculum that only offers its graduates basic knowledge and exact competencies that are at most times not applicable in industry. Scholarly findings from research indicates that there is a need to consistently update the curriculum; in other words, the education curriculum should be reviewed in such a manner that it will adequately cater for the development of marketable skills. This perspective has raised a lot questions from the industrial perspective on the proficiency of school curriculum to deliver the skills needed to execute a job (Saravanan, 2006). Summarily, the school curriculum should be constantly reviewed by curriculum planners to ensure it is aligned with the necessary input required for the development of students' employability skills (Walo, 2000). Walo further states that in view of keeping with current trends, the college curriculum should be updated periodically to avoid endangering the future of students as a result of imparting the wrong information to learners. Working in a contemporary industrial environment demands multiple classes of skills proficiency – not just trade related skills but soft skills as well. Every industry has a target of meeting the need of their client through their services, and as such it involves different levels of operations and processes. Most industrial operations include machine operations, welding and

fabrication, assembling of parts among others; these call for equipping Technical College graduates beyond technical skills required to execute a job.

The stages stated above all involve the application of employability skills of resource management, basic skills, literacy, reasoning skills, mathematical literacy skills, problem solving, ability to work in groups, thinking skills, amongst others (Saravanan, 2006). Employers are in dire need of certain employability skills such as core skills, marketable skills, generic skills, and soft skills in order for an employee to function effectively in the workplace (Blom & Saeki, 2010).

Skills such as interpersonal skills are required by graduates at their first entry into the workplace. These are skills that enable an individual to work freely and effectively with others, both superior and the subordinates without disputes and other differences in achieving the institutional goals (Northouse as cited in Green, 2007).

Debates on employability skills have signalled eight employability skills as being significant for graduates entering industry after leaving technical institutions. These are:

- The capacity to effectively converse with others;
- Ability to work with others in a group;
- Problem-solving;
- Life-long learning;
- Planning and organising
- Resourcefulness and enterprise skill;
- Self-management; and
- Technology skills (Cleary, Flynn, Thomasson, Alexander, & McDonald, 2007).

Falconer and Pettigrew (2003) opined that learners need to equip themselves with the desired employability skills together with work related and academic knowledge which may be in demand by employers due to the rapid transformation of the workforce.

On the need for school curriculum to reflect the need of the industry based on employability skills, employers of labour have emphasised their desire to recruit graduates who possess the desired skills combined with the competency required to carry on with production, with the ability to be creative and that have independent problem solving skills (Fallows & Steven, 2000).



School curriculums need to be updated to serve the present needs of contemporary society; schools of these days operate with almost an archaic curriculum as it is of no use to the present age. Supporting this opinion, Kenawy (2006) argued that some instructors design the school curriculum with irrelevant information which does not require much thinking to produce the required answer in a test or exam.

School curriculum should be planned in such a way that it goes beyond memorisation teaching and learning schemes to include other skills that make a graduate more marketable in the labour market. Curriculum designed with a limited scope inhibits graduates from competing with fellow graduates in the national and international workforce as firms regard such graduates as inadequately skilled (Yusoff et al., 2010)

Some graduates in hyper-competitive firms possess the needed technical skills which are necessary components of the school curriculum, but these skills should not be equated with life-skills, which are missing in the school curriculum (Harvey, 2000)

With the subtleties of most educational institutions being at different stages, teaching methods need to be altered with utmost considerations of students learning enrichments, working hand in hand with the incorporation of the desired soft skills into the core course curriculum thus ensuring that while students take part in their normal lectures they invariably study a variety of soft skills as well (Schulz, 2008). Rather than burden the school curriculum with more core course skills, it is advisable to replace some core skills with soft skills to address the increasing need of employability skills by employers, which will signal that the school curriculum is yielding to the demand of industry (*ibid*).

The design of a school curriculum can either make or mar the achievement conceived for its design, as this can only be seen in the products of such organisation. It is ideal if school curriculums mirror what industries demand. By so doing, schools will no longer produce graduates whose skills are not relevant to the need of the industry.

### **3.2.9 TVET teacher education**

The quality of development experienced in any given nation of the world is dependent on the quality and adequacy of teachers they have within any educational setting. The readiness of the TVET teacher is of paramount concern to educational organisers and administrators (Bandeke and Faremi, 2012). This is articulated in the Federal Republic

of Nigeria (FRN) National Policy on Education (2004) as: “no nation can rise above the quality of her teachers”. That is why Gidado (1995) concludes that the challenge with teacher education in Nigeria is that the quality of teachers trained are not adequately equipped to meet the demand of the teaching profession in Nigerian schools. According to Tanner and Tanner (2002) the success of the school curriculum largely depends on the teachers handling it. In the same vein, Ulintun in Osarenren-Osaghae and Irabor (2012) argued that in skill-based education as opposed to liberal education, the preparation of the teacher is very essential because of the pragmatic skills and proficiencies that must be divulged. This means the position of a qualified technical teacher cannot be compromised when it comes to the delivery of skill-based courses. Most training institutions in Nigeria are confronted with inadequate and unqualified teachers. Unfortunately the few trained oversees that exist are handicapped due to unavailability of training materials and equipment (*ibid*).

### **3.2.10 Staff development**

The achievement of a quality TVET delivery is solely dependent on the provision of effectively trained teachers and other technical personnel that bear the charge of preparing students with quality vendible skills for the vigorously changing workforce (Berhe, 2011). This assertion is supported by Strong and Wenrich (as cited in Antonios, 2006) who argued that quality TVET programs are distinguished by having to their credit highly trained, experienced, technically competent, and enthusiastic staff that range from coordinators, teachers and counsellors – all who partake in the training process.

According to Berhe (2011), teachers and all other personnel of quality TVET programmes are expected to be masters of their work, meticulously skilled in every phase of their career, and well-informed regarding all technically related issues in their field. This implies that their duty goes beyond the classroom and workshop exercise to the level of providing needed advice and counsel in order to motivate students.

Success in the attainment of a high-quality TVET program lies in the crucial role of the teacher or training personnel (Atchoarena & Delluc, 2002). Considering TVET, teachers are to possess first hand industrial experience, but in most cases, they have shallow information due to little or no contact with world of work or modern technologies. There has been concerted effort by different nations of the world to equip

teachers with skills needed from students at the work place. The call to train and retrain the TVET teacher cannot be over emphasised; the emergence of new technologies, societal needs, modern equipment, machines and the constant changing of the workplace calls for training and retraining of TVET teachers to meet up with these challenges (Akamobi, 2005; Idialu, 2007).

### **3.2.11 Relationship between TVET and enterprises**

Governments in different countries of the world find it difficult to provide access to high-quality training needed for their transformation (Tansen, 2012). Therefore establishing links between TVET institutions and industry has enormous benefits to the institutions, industry and the entire economy (Triki, 2013). Callan and Ashworth (2004) posit that partnership with industry in curricula development is an added advantage in making TVET programmes responsive to the need of industry; besides, partnership with industries creates avenues for work-based learning and makes delivery of the curriculum efficient. Such partnership has a broad contribution to the training programme; the issue of skills mismatch will be eliminated, the implication is that there will be input in terms of skills need in the curriculum and technical support to enhance teaching and learning (Comyn, 2007 cited in Comyn, 2009).

### **3.2.12 Internship and cooperative work placement**

In Career management, it is posited that the accomplishment and fulfilment of an individual is tied to the discovering of a job that matches with one's peculiar features and prospects (Feldman, 2002). Mastering or getting used to industrial setting places a huge task on an individual which calls for a better understanding of one's skills and anticipations as well as understanding of the different work sites (Greenhaus, Callanan, & Godshalk, 2000). The consideration of an individual's personal proficiencies being compared with the different work sites provides an avenue for an evaluation to ascertain if it is possible to fit in such work environment (Greenhaus et al., 2000). Comyn (2007) as cited in Comyn (2009) contends that practical-based learning cannot be achieved through classroom knowledge; rather it demands specific participation and commitment of industries in related field. Developing job-ready skills, conducts and attitudes can be naturally achieved when you engage in the practical and real life industrial environment (Munro & Stuckey, 2013). Rae (2007) agrees with this that partnership with industry

can help boost staff and students' employability through industrial learning and work-based placement programmes. Students' skills are also improved when they participate in industrial attachment programmes (Osman et al., 2008).

### **3.2.13 Industrial training**

Engineering construction companies have high expectations for “work-ready” graduates from tertiary education providers who are skilled and are willing to take part in the world of work immediately (Tong, 2003; Zaharim et al., 2009). Industrial training is an avenue to equip students for the workforce as “work-ready” graduates. It is a place where theories acquired in educational/ training institutions are being put to practice in the industrial setting, and technical and employability skills are developed in the process as well. Industrial training gives students ample opportunity to deal with real life situations as it exposes them to challenges in the real world of industry. It equips students with practical and work experience in their chosen career. In recognition of this the National Policy on Education (2004) recommends that the Technical College programmes shall include industrial training where students will improve on their practical skills acquired in school.

Industrial training is a good venture in the school system, it avails students the opportunity to put theory into practice. One of its major advantages is that when students go on industrial training, they meet with real situations with what they are taught in the classroom and this boosts their confidence because they are meant to work with the machines.

Exchange programmes between TVET institutions and industry can also boost the teaching of employability skills. In line with this, Grunwald (2008) suggests that such partnerships could foster the need to identify the practical need of a technical staff, train and retrain technical teachers and workshop attendants set a standard for TVET educators. Revitalising TVET to impact on employability is to increase exchange programmes with industry to enrich the practical content of teachers and bridge the gaps between theory and practice as it occurs in the industry (Raimi & Akhuemonkhan, 2014).

### 3.3 GRADUATES' EXPECTATION

Young school leavers rate their graduation certificate highly as a visa for engagement in the world of work. This may not be unconnected with high earnings within some particular sectors of the economy. A great number of graduates leave with the intention that when they get employed they will be highly placed and are entitled to huge remuneration. Consequent upon this fact, the universities must share some of the blame for communicating to their products that their degree is their right high-level job security (Currant & Mitton, 2000). In agreement with this, Pop and Barkhuizen (2010) remarked that the demand of graduates are sometimes high, as they have the assumptions that their qualification is the access they need to earn fat salaries, and have good job placement. Having knowledge of one's career goals encourages energetic behaviours that boost the improvement of one's physical and emotional welfare as well as an enthusiastic attitude towards oneself and life in general (Coetzee & Esterhuizen, 2010). Tomolison (2007) remarked that the lack of awareness amongst school graduates causes a loss of focus thereby leaving most graduates to manage their employability which most times results in unemployment for those who may not cope with the competitive nature of the workplace.

According to Pool and Sewell (2007), self-awareness should be created in graduates to enable them reflect on the things they enjoy doing and are interested in; things that motivate them and that suit their personalities and career interests. They also need to be availed of an insight into the labour markets to see what opportunities are available to them, how to present themselves effectively to prospective employers and how to make considered decisions about their careers. According to Barnett and Bradley (2007) career-development services have the possibility to positively affect the career-development ability of an individual, behaviour and motivation of people. In submission to this, Coetzee and Bergh (2009) posit that such services may include but are not limited to education, guidance and coaching for self-empowering career behaviours and career meta-skills that have been shown to underpin individuals' career adaptability and general employability. Considering the finding of this study with regard to Technical College graduates, it is imperative to commence career-development programmes which are aimed at preparing graduates for the world of work (Coetzee & Esterhuizen, 2010).

### **3.4 EMPLOYABILITY**

The term ‘employability’ refers to a category of skills which is demanded from an individual to effectively participate in the current world. Employability has its bearing on both those engaged with any kind of job those that need an improvement in their jobs. According to Rees, Forbes and Keble (2006) these skills and other related attributes that enriches a person’s employability are in most cases those which form the foundation of learning and application of subject area. They went further to remark that these skills – the ability to analyse data, to solve multifaceted problems, and to communicate outcomes effectively – are frequently applied in both academic and employment processes. Harvey (2003) notes that employability is beyond getting a job, developing the attributes or experience just to enable a student secure a job, or progress within the current career. Employability according to Harvey is all about learning and the emphasis is less on ‘employ’ and more on ‘ability’. The implication is that more emphasis should be laid on developing critical, reflective abilities, with the understanding of endowing and enriching the student (Harvey, 2003).

#### **3.4.1 Skill**

The ability of an individual to perform an intellectual or physical task is referred to as skills (Ivancevich, Konopaske & Matteson as cited in Kreiner et al., 2009). This is a terminology used to refer to specific components of competencies, which include knowledge, values, attitudes, and motivations, among others (Allen & van der Velden as cited in Kreiner et al., 2009).

Clarification on the concept and definition of employability skills is presented in the next section.

#### **3.4.2 Clarification on the concept and definition of employability skills**

There have been discussions on the term ‘employability skills’ in advanced education and this has gained prominence in related educational literature (Barrie, 2004; Fallows & Steven, 2000; Hager & Holland, 2006; Johnston & Watson, 2006; Knight & Yorke, 2004; Scanlon, 2006), but the meaning within the educational sector is not yet known (Lees, 2002). The question yet to be answered is where employability should be developed whether in the school or at industrial sites. Scholars with vast knowledge

have written on the field of employability, but are yet to come to a conclusion of a general meaning of the term. The scholars includes; Lee Harvey, Brenda Little, Lees Dawn, Peter Knight, among others. Researchers are coming to a mutual agreement regarding the prominence of certain employability skills among graduates as required by employers of labour (Butterwick & Benjamin, 2006; Gibbons-Wood & Lange, 2000, p. 24; Robinson, 2001).

Knight and Yorke (2003, p. 5) perceive employability as “a set of achievements, understanding and personal attributes that make individuals more likely to gain employment and be successful in their chosen occupation”. This same definition was reissued by Yorke in 2006.

As defined by Overtoom (2000, p. 2), “employability skills are transferable core skills that represent essential functional and enabling knowledge, skills and attitudes required by the twenty-first century workforce that is necessary for career success at all levels of employment and for all levels of education”.

In other words, as argued by Hillage and Pollard (as cited in Pool & Sewell, 2007) it is the ability of an individual to excel and be sustained in the workforce as a result of the skills possessed by that individual.

“Employability is the relative capacity of an individual to achieve meaningful employment given the interaction of personal circumstances and the labour market (Canadian Labour Force Development Board as cited in McQuaid & Lindsay, 2005)”.

Fallows and Steven (2000, p. 75) defined employability skills as the aspects of skills that increases the chances of students securing employment within industry.

In a related development, the Australian Chamber of Commerce and Industry (ACCI), and the Business Council of Australia (BCA) (as cited in Williams, Gannon, & Sawyer, 2013) refer to employability skills as “skills required by an individual not just to secure employment in the industry, but to also advance within the enterprise so as to realize ones potentials and be of benefit to the industry in several aspects”.

Employability skills as defined by Knight and Yorke (2004) are “a set of achievement, skills, understanding and personal attributes that makes graduate more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy”.

De Bruin and Dupuis (2008) refers to the term employability as an ‘ambiguous’ notion. As identified in the CBI/UUK document titled ‘Future fit’ (2009, p. 8), the term employability is explained as:

“A set of attributes, skills and knowledge that all labour market participants should possess to ensure they have the capacity of being effective in the workplace – to the benefit of themselves, their employer and the entire economy”.

Ostensibly, there has been no commonly accepted meaning of the terms “Employability Skills” within the educational sector (Lees, 2002), and this has contributed to the trauma students face on leaving school. Another problem is the meaning ascribed to it by employers as what an employer describes as employability skills may differ from another employer; the determination of employability skills by an employer is solely dependent on the nature of job the employer specialises in. It will be of great leverage if there is a consensus meaning and definition given to the concept employability skills to allow for uniformity and the avoidance of discrepancies on skills requirement among employers.

For the purpose of clarity, this study will adopt the definition offered by Knight and Yorke (2004) which was reissued in 2006. Their definition seems to have a broad coverage to what employability seem to mean. The next section presents the terminologies used to describe the concept of employability skills in different parts of the world.

### **3.4.3 Terminologies and employability skills**

Employers, individuals and educational institutions have been preoccupied with employability skills that can attract employers’ attention that need to be developed by educational institutions through training. Hence, there is great need for institutions to work collaboratively to chart a new course in imparting young people with these employability skills (Curtis & McKenzie, 2001).

Kearns (2001, p. 84) maintained that there are different terms used when referring to employability skills, though sometimes they are used in different contexts but refer to the same thing. Such terms or concepts are ‘core or key skills’, ‘soft skills’, ‘transferable skills’, ‘graduate attributes’, ‘personal skills’, ‘employability skills’, among others. In different nations of the world, there are different terms used to denote the concept employability skills, in United Kingdom it is referred to as ‘core skills’, in the



United States it is called ‘basic skills, necessary skills or workplace know-how’, the Australians call it ‘key competencies’, while in New Zealand it is referred to as ‘essential skills’ (Ramsey, 1997, p. 25).

There has not been a universally accepted terminology describing the concept of employability as seen in the different language used in different countries of the world (Curtis & McKenzie, 2001, p. vii). Kearns (2001, p. 85) further stated that there is a need for consensus terminology when referring to the concept of employability globally. Table 1 shows the various concepts used for employability in countries overseas by the National Centre for Vocational Education Research (NCVER, 2003).

**Table 3.1: Concepts Used For Employability Skills in Countries Overseas**

<b>COUNTRY</b>	<b>TERMINOLOGY</b>
<b>Australia</b>	Key Competencies
<b>New Zealand</b>	Essential Skills
<b>United States of America</b>	Basic Skills, Necessary Skills, Workplace Know-How
<b>United Kingdom</b>	Core Skills, Key Skills, Common Skills
<b>Australia</b>	Key Competencies, Employability Skills, Generic Skills
<b>Canada</b>	Employability Skills
<b>Singapore</b>	Critical Enabling Skills Training (CREST)
<b>France</b>	Transferable Skills
<b>Germany</b>	Key Qualifications
<b>Switzerland</b>	Trans-disciplinary Goals
<b>Denmark</b>	Process Independent Qualifications

NCVER, 2003, p. 3

From all indications, it is evident in literature that the meaning ascribed to transferable skills, key skills, generic skills, graduate attributes or key competencies are closely related to basic abilities, in spite of minor differences in the languages used and the importance attached. In most cases, core skills are considered significant in order to gain employment as a starting point. Core skills are fundamental to many tasks as they form the foundation for specialisation in occupational skills (Onstenk & Brown as cited in Onstenk, 2014).

For clarity purposes, the term adopted for this study is ‘employability skills’. The concept is adopted in order to distinguish it from other terminologies. This is done to clarify the aim of this study, specifically to explore if there is an interface in the

employability skills acquired in Technical Colleges and skills required by the employers of labour.

#### **3.4.4 Employability: The global experience**

Global competition and rapid technological transformation have been the propelling force for a flexible and competent workforce (Nikandrou, Papalexandris, & Bourantas, 2000). To meet the challenges of a global competitive world for a qualitative output, considering the development of employees is necessary to ensure firms meet the tasks of international struggle and social change and to be part of the technological transformation in work approach (Noe, 2002). There is a global indication that graduates of developed countries do not possess the skills required by the labour force. Kimani (2000, p. 13) supports this by adding that educational institutions in developing countries produce graduates that lack the relevant skills needed in the industry.

The relevance of educational institutions have been brought to questions as the entire world faces challenges due to discrepancies from lack of conformity in education reforms and the changes in the work place. This was confirmed by the research carried out by Kimani (2000, p. 13), who observed that there has been problem with the level of personnel produced in educational institutions; they seem not to meet the demand of the workforce as a result hampers productivity. Employability skills trend in Africa and beyond are discussed in the following sections.

#### **3.4.5 Namibia**

A study was conducted in Namibia, with the purpose to identify the types of employability skills considered important by employers in the workplace and to determine how these skills could be integrated into the vocational education and training curriculum in Namibia. Out of the 493 employers targeted, 244 were sampled. The occupational trades sampled included automobile technology, electrical technology, building and metal technology. The results of the study revealed that employers consider the following skills important from their prospective employee: the ability to work and contribute ideas in a group (team work skills), the ability to identify a problem and apply the right approach to get the solution (problem-solving skills), time/resource management skills, right attitude to work, planning, and flexibility (Naanda, 2010).

### **3.4.6 South Africa**

A baseline study of graduate attributes from the employers' perspective was conducted in South Africa in 2009. The purpose of the study was to ascertain employers rating of skills possessed by graduates from higher education in South Africa a total of 99 employers constituted the sample of the study, which cut across manufacturing, mining, construction, science and technology, among others. Employers were asked to rate graduates in the following four areas: basic skills and understanding; knowledge and intellectual ability; workplace skills and applied knowledge; interactive and personal skills. The study signposts that there is a wide gap between what higher education graduates possess and what the industry expects of them. The study also revealed a strong emphasis on expert English language and communication skills, and information and communication technology skills for employability; and the need to address the gap between employer expectation and education institution outcome (Griesel, Parker, & Authority, 2009).

### **3.4.7 Egypt**

In 2008, the Academy for Education Development carried out a survey to ascertain employers' satisfaction with middle Technical College graduates and to make recommendations for the improvement of the program to the Ministry of Education. The result showed increased demand for a skilled workforce. Employers in Egypt placed emphases on such skills as interpersonal skills, resource management skills, mathematical literacy skills, among others (AED, 2008)

### **3.4.8 Malaysia**

School leavers in Malaysia could not secure employment in industry because they lacked employable Skills. Similarly, there was an affirmation of a like trend by the Deputy Human Resources Minister; Datuk Abdul Rahman Bakar. He claimed that the greatest challenge encountered by about 90,000 graduates in Malaysia in search of employment is the lack of the desired employability skills (Hanapi, Nordin, & Rus, 2014).

To meet the needs and challenges of everyday life, the Malaysian Qualification Agency also summarised eight areas which graduates must master to be relevant in the

job market. These include: oral and verbal communication skills, leadership and teamwork, pragmatic skills and responsibility, work ethics, discipline oriented skills, non-technical skills, logical problem solving skills, commercial and management skills, continuous learning and information management skills (MQA, 2006).

Ransul and Mansor (2013) in bench-marking manufacturing employers' employability skills needs of graduates based on the Malaysian Industrial Development Authority (MIDA) highlighted the following seven key skills: time and material management skills, numeric skills, personal attributes, interpersonal skills, creative and innovative thinking skills, technology application and informational skills.

In a study conducted in Malaysia in 2013 to determine employers' employability skills expectations of technical students of 107 employers in the manufacturing industry, the findings of the study revealed that the following skills are considered very important to be possessed by technical students. The skills include thinking skills, ability to relate effectively with customers, leadership skills, ability to work safely, relating with others from a diverse cultural background, working with new ideas, problem solving, and other personal qualities such as integrity (Rasul & Mansor, 2013).

The clamour for basic communication skills, ability to work as a group, and problem-solving became a source of concern among employers in Malaysia, as products of institutions of education and training seem to lack these skills (New Straits Times as cited in Quek, 2005). To confirm this study was conducted by the National Economic Action Council in Malaysia to checkmate the cause of unemployment among Malaysian graduates. One hundred and fifteen employers were sampled in the study; the result indicated that there was great demand for graduates that are grounded in the following three key skills namely; basic skills, effective communication skills, and self-presentation (Ahmad, 2005).

To determine the entry-level employability skills considered important by employers in Malaysia when recruiting engineering graduates, a study was conducted in 2009. Five hundred employers constituted the sample of the study from Kelang Valley area, which is the main industrial area in Malaysia. The findings of the study revealed among others the following skills in order of their importance to employers: good written and verbal communication skills, team work, willingness to learn, professionalism, ability to identify and solve a problem, accountable to decision, competency, ability to apply scientific knowledge and engineering principles,

knowledge of contemporary issues, engineering system approach and application of discipline oriented skills (Yuzainee, Zaharim, & Omar, 2011).

### **3.4.9 Greece**

The drive for a qualified workforce and multiple skills has been the major pursuit to catch up with the rapid technological transformation and the globalisation of economic activity (Papalexandris & Nikandrou, 2000). However, the solution to meeting-up with the challenges posed by these skills and competing in such a global economy, there is great emphasis to grow in the development of the competencies required by the labour force.

Papalexandris and Nikandrou (2000) in a tracer study to track employability skills from the best practice industries in Greece revealed the following: training cannot be treated as a method to cure skills deficiencies, rather training should be conceived as a life-long process; acquiring personal attributes is one of the greatest difficulties encountered in training a significant part of the educational programme at an early stage should include flexibility and self-learning.

### **3.4.10 Australia**

Leveson (2000) asserts that employers in Australia and other parts of the world have raised alarms over the increase of higher education graduates without the necessary skills required in the industry. Employer associations in Australia have complained of the scarcity of skills from job applicants in different aspects, some of which include the ability to communicate effectively, working with persons of diverse culture, problem-solving skills and lifelong learning; also added were other personal attitudes, values and features. Owing to the increased demand to reduce the shortage of skilled personnel, the employers association in Australia has called on the institutions of education and training in Australia to extend the design of the school curriculum beyond academic discipline to incorporate work related skills in order to make the school system more effective to meet the need of industry (Sheldon & Thornthwaite, 2005).

A study was conducted to measure the opinion of employers of labour on the employability skills need of Technical College graduates; the study revealed that certain level of skills are in high demand in the private sector, namely: basic skills, team work

personal management, ability to identify and apply right solutions to a problem, thinking skills, among others (Academy for Education Development [AED], 2008).

Employers in Australia has stressed on the importance of highly skilled workforce as an element of competitive advantage both at local and international level, this has resulted to the great emphasis placed on soft skills in their recruitment process (Curtis & McKenzie 2001). According to ACNielsen Research Services (2000, pp. 15-16) the skills employers prefer most embraces problem-solving, teamwork, mathematical literacy, communication, interpersonal, computer, and their technical skills among others.

### **3.4.11 Germany**

In a study conducted by Gibbons-Wood and Lange (2000, p. 24) on core skills needed by employers in Germany, the core skills they referred were soft skills such as transferable skills, key competencies, among others are used to describe skills that underpin competent performance in all areas of specialisation.

According to Gibbons-Wood and Lange (2000, p. 25) the German economy is the third largest economy in the world. This success was only achieved through the highly organised labour market, which is rooted in the German “Dual system” which is regarded as one of the best national schemes that ensures an effective school to work transition. The German dual system has been so known by industry for producing school leavers with the desired skills and aptitude that is required by the industry. Recently, there has been a deviation in the dual system which has led to falling standards due to the inability to adapt to changes in the labour market and new skills requirements.

The dual system allows training in two locations, a trainee under this system attends learning in the workplace and also a part-time vocational college. The system allows for the learner to develop the relevant skills through on-the-job pragmatic “learning by doing” and part-time schooling. Power is shared among the states (Länder) and the federal government. The state oversees education, while it falls within the jurisdiction of the central government to oversee vocational training and certification, as advised by the Federal Institute for Vocational Training Bundesinstitut für Berufsbildung (BIBB) (Gibbons-Wood & Lange, 2000).

### 3.4.12 United States of America

In the quest for graduates with the right skills, Holdsworth and Gearhart (2002) argued that scarcity of skills faced by the United States economy cannot only be attributed to technical or work-related skills, but it also included “soft skills”. This is because it has earlier been reported that employers of labour seek for workers who can communicate both orally and verbally, and those who can work or relate with others effectively.

Holdsworth and Gearhart (2002, p. 158) further added that these soft skills apply to all spheres of industry irrespective of the discipline. Team work, interpersonal skills, resource management skills, problem-solving, among others should be considered necessary as part of what a student need to develop. Laying emphasis on the development of only work or subject-related skills will only make a student redundant and as one who has not developed any skill. They opined that there is a need for academia to develop subject-related skills alongside soft skills as the surest avenue to make their learners effective and their programs responsive to the need of the workplace.

A study was conducted by Oblinger and Verville in 1998 with the purpose of investigating the actual skills industry require from graduates of the institutions of learning. The study highlighted six attributes that graduates must retain to be effective at the workplace. The attributes or skills are indicated in Table 3.2.

**Table 3. 2: Attributes and their descriptions**

<b>Skills</b>	<b>Description</b>
<b>Intellect</b>	This includes analysis and synthesis to problem-solving
<b>Knowledge</b>	This cuts across discipline oriented understanding, knowledge of the organisation and commercial awareness; preparedness and capability to learn and uninterrupted learning in a life time
<b>Adaptability</b>	Ability to initiate change and also to respond to change.
<b>Self-management skills</b>	It incorporates self-discipline, handling stress, prioritisation, planning and the capability of manipulating several things at a time
<b>Self-motivation</b>	Ability to start and successfully end a task, determination, commitment and resilience.
<b>Positive self -image</b>	This includes self-confidence, self-awareness, self-willed, self-sufficiency, self-direction and promotion

Oblinger & Verville, 1998, pp. 73-74

The result of another study highlighted ten skills that graduates must possess to be useful in the workforce, these include:

1. Applied academic skills; all students need to apply basic communication skills, for example in verbal and written communication, also apply scientific and social studies concept and mathematical literacy skills.
2. Career planning. Students have to acquire, organise, interpret and evaluate information from career awareness and exploration activities, career assessment, and work-based experiences to identify and pursue their career goals.
3. Information development and presentation. There is a need to demonstrate the ability to combine information in diverse ways, link ideas, organise and present them in pictorial forms, schematic charts and graphs.
4. Identify and solve problem. These skills must be demonstrated by students; students are to make decisions and solve problems with the specification of goals, recognising resources and limitations, engendering substitutes, bearing in mind impacts, and appraising results.
5. Personal management. The display of personal abilities such as responsibilities, self-management, moral behaviour, and reverence for others are necessary skills required from students.
6. Organisational skills. This is another skill that a student needs to manifest, the ability to identify, organise, plan, and allocate resources (for example, time, human resources, money and materials), competently and meritoriously.
7. Teamwork skills. Students should be able to work together with other persons of different background in a group, collectively and cooperatively, contributing useful ideas to the growth of such group.
8. Cooperation/Negotiation skills. All students are expected to contribute ideas to back a position and work cooperatively to resolve conflicting interests.
9. Understanding systems. All students will have to comprehend multifaceted systems, with social and technical systems, and work with different technologies.



10. Employability skills application. Students are to integrate employability skills into behaviours which prepare them for excellence and job security when employed (Zinser, 2003, p. 405).

#### **3.4.13 Canada**

The Planning, Research and Development Division of Saskatchewan Institute of Applied Science and Technology Canada, in June 2003 carried out a study to assess employers' approval of the level of graduates produced by the institute. The result of the study indicated that 96 per cent of employers commended the institute's effort in producing graduates with good work-related knowledge, employers also signposted computer literacy skills, effective communication skills, resource management skills, work ethics, organisational skills, among others as necessary skills in the workplace, and that it should for part of the school program. Internship and co-operative education were also highlighted by employers to be integrated into the school curricula, as it makes learning experience real (SIAST, 2003).

#### **3.4.14 Botswana**

A study was conducted to obtain qualitative information from employers in Botswana regarding their satisfaction on the skills required from University of Botswana graduates in 2008. To accomplish this task, 61 supervisors were sampled from thirty-eight organisations in Ramotswa and Tlokweng, two towns close to Gaborone the capital of Botswana. However, the result of the study signalled a positive response from employers on how well the graduates were prepared. Though emphasis were still laid on writing and communication skills, in addition critical and inventive thinking skills, ability to respond to change, problem-solving skills, information and communication technology skills, ability to work with persons of diverse culture, leadership and time management skills, systematic and research skills, among others are skills that every potential graduate must possess to excel in the world of work (Alao et al., 2009).

#### **3.4.15 India**

According to Mishra (2014) there have been several reports in India on skills gap, most of these surveys suggested that half of graduates produced by educational institutions in

India lack the necessary employability skills required by industry employers in India. This has raised a growing concern about how responsive school programmes in India is to the need of the labour market. These skills mismatch among some occupations appear to be staggering, as the job market closes for graduates in all fields. Several studies that determined the low employability of Indian graduates placed more emphasised on soft skills together with technical skills (Mishra, 2014). Reddy (as cited in Mishra, 2014) remarked that there is a definite skill gap between skills possessed by graduates and skills required by the industry; employers expects from graduates skills in communication, information and communication technology, interpersonal and teamwork. Employer in India expects from graduates the following soft skills; communication, problem-solving, teamwork, willingness to learn alongside their professional skills in order to secure a place in the industry (Blom & Saeki, 2011)

#### **3.4.16 United Kingdom**

To respond to the call on employability skills development and to also ensure that learners do their best to enhance their employability skills, universities have all sorts of ways to assist (Bowers-Brown & Harvey, 2004).

There has been a growing rate of commitment to the development of employability skills within the school system in the past half-decade, the little attention given to employability through skills components has advanced into different group of opportunities, as these have been developed into an incorporated, all-inclusive strategy, most newly associated to learning and teaching policy (Harvey & Bowers-Brown, 2003, p. xx).

The work of Fallows and Steven's (2000), explored initiatives presented at the University of Luton where the strategic decision was taken on how employability skills such as verbal and written communication and presentation, information analysis, planning and problem-solving, social development and interaction should be made part of the undergraduate curricular.

According to Fallows and Steven's (2000, p. 75) three external factors were acknowledged to have an impact on higher education, and these include;

- **Growing global recognition.** In the UK, the huge escalation in the number of students that transits the higher education organisations has made it more difficult and competitive for graduate to gain employment; therefore, the

range and array of professions into which graduates are progressing is becoming progressively varied. Only a few school leavers are able to secure employment that offers direct bearing to what they studied in school.

- **Significance of the academic curriculum.** The academic curriculum is an embodiment of components through which other elements are conveyed. These elements that are in the curriculum remain the same irrespective of the subject studied.
- **Rapid transformation in the world of employment.** Due to the emergence of new technologies, industry which were in existence seem not to be relevant as new industry have taken to modern ways of technology in their services which were not in existence some couple of years back.

Ellis (2003, p. 83) outlined two forces that have influenced labour market policies which have emphasised learning and skills in the United Kingdom since 1997. These forces are the yearning to advance the efficiency of the level of educational and vocational training system, and the movement towards skills which led to the establishment of National Skills Task Force with the obligation to advice on the improvement of National Skills Agenda, focussed on the identification of employer's skills needs and government's response to them.

Meanwhile in other studies conducted by some researchers, employers clamoured for graduates who can write and communicate effectively (Lee, Quek, Chew, & Daud, 2001), ability to work as a group (Boud & Middleton, 2003).

In Spain, the Scottish Council for Research in Education (SCRE) Centre in the faculty of Education in the University of Glasgow was commissioned by the Edge Foundation to explore employers' perceptions of the employability skills of new graduates. Nine employers that had international divisions in the United Kingdom were selected to form the study sample The result findings highlighted some features, skills and knowledge and highbrow competences that new graduates needed to possess to be relevant in the workforce, and these included the ability to work and function as a member in a group, identify and solve a problem, self-management skills, discipline oriented knowledge, literacy and mathematical literacy relevant to the post, information and communication technology literacy, good interpersonal and effective

communication skills, creative and innovative skills, working with directives, and leadership skills (Lowden, Hall, Elliot, & Lewin, 2011).

### **3.4.17 Nigeria**

Nigeria like other countries of the world is faced with the challenge of unemployment due to skills gap. To determine how equipped Technical College graduates are in Delta State, Kennedy (2012) conducted a study to determine the technical and managerial skills needs of blocklaying and concreting for effective entrepreneurship. The study aimed to identify the technical and managerial skills possessed by prospective Technical College graduates in Delta State. The population of the study comprised 30 blocklaying and concreting final year students of 2010/2011 session from six Technical Colleges in Delta State. The questionnaire used for data collection was of three parts, part A, B, and C. Part A contained 81 items on blocklaying and concreting skills possessed by final year Technical College students, part B contained 81 items on blocklaying and concreting skills possessed by final year Technical College students for entrepreneurship, and finally part C contained 17 items on blocklaying and concreting skills possessed by final year Technical College students. The result of the study showed that final year Technical College students in Delta State possess adequate technical skills for entrepreneurship but lacked managerial skills.

In a related situation, a study was also conducted in in Technical Colleges in Akwa Ibom State Nigeria. The study aimed to examine the impact of generic skills on the employability of Electrical Installation and Maintenance students in Technical Colleges of Akwa Ibom State Nigeria. A total of 300 hundred students were selected out of a population size of 500 learners of electrical installation and maintenance students, all from the xix Technical Colleges in Akwa Ibom State that offer TVET programmes. The results of the study showcased that students of electrical installation and maintenance in Technical Colleges in Akwa Ibom State possess essential generic skills to a great extent. Other findings include the use of separate modules in the teaching of generic skills, emphasis by teachers on the importance of generic skills, and updating of training packages. Also highlighted were constant school-industry relations in training of students, improvement on the teaching of generic skills, and the development of teachers to encourage functional skills acquisition by students.

The study thus recommended that more attention should be placed on the importance of generic skills by teachers in building confidence, communication skills, and team work skills and ICT should be part of the course content (Caleb & Udofia, 2013).

Okwori, Adamu, and Moses (2013) conducted research in Technical Colleges in three zones of Niger State Nigeria. The study aimed to evaluate woodwork graduates produced by Niger State Technical Colleges. Precisely the purpose of the study was to:

- Find out the level of skills possessed by woodwork graduates in Technical Colleges in Niger State.
- Find out the level of skills possessed in the use of consumable materials, and
- To find out their expertise in the use of woodworking hand tools.

A total of 120 respondents formed the study sample. The sample was drawn from the Ministry of Works, maintenance section of Niger State General Hospitals, Technical Colleges and Works Department of Local Government council in the three zones of Niger State.

The findings of the study indicated that Woodwork graduates of Technical Colleges in Niger State used all woodworking machines available except band saw, tenoning machine, mortiser and thicknesser which was attributed to unavailability; they used all hand tools listed in the questionnaire; and they also used all consumables listed except covering wood surfaces with Formica. They further recommended that Niger State Government should make available modern machines and hand tools to improve practical skills of woodwork students; there should be consistency in the involvement of Technical College students in practical exercise to improve their practical skills upon graduation; Technical College students should be taught on how to apply Formica on wood surfaces by their teachers.

### **3.5 RESEARCH GAP**

An overview of the review on studies conducted both at the local and international levels show that in one way or the other, school graduates are deficient in some skills needed for their employability. In other words, school seems not to be preparing these graduates properly for employment as there is existence of a gap in skills acquired and skills required. More so, there were very few studies conducted on employability of

Technical College graduates in Nigeria. It was also observed in the literature reviewed that none of the studies conducted at both local and international levels considered policy document on the type of skills recommended alongside teachers, graduates and employers. This appears to be a major gap in the methodologies as adopted in most of the studies, and that is the major gap which this study intends to address.

### **3.6 CONCLUSION**

Presented in this chapter is the geographical and demographic description of Nigeria, review of related literature on debates, contentions on technical and vocational education in Nigeria, concept and definitions of employability skills experience locally and globally.

The next chapter presents the methodology adopted for the study.

## **CHAPTER 4**

### **RESEARCH METHODOLOGY**

This chapter unveils the research methodology of the study. Research methodology as defined by Henning (2004) is an articulated group of techniques that complement each other to fulfil the requirements of the study, in as much as the technique could lead to the generation of data that will produce answers to the critical questions asked in the study. Research design and methodology entails all activities and planning that leads to the main study, and these include the preparations and procedures that a researcher follows to carry-out a research (Koshy, 2005).

This chapter discusses the procedures undertaken in carrying out this research. The chapter further explains the research design, methodology, research methods used for data collection, instruments, sampling and sampling techniques, credibility, and data analysis. Finally, the chapter concludes by discussing the ethical issues underlying the research and the delineation of the study.

#### **4.1 RESEARCH DESIGN**

For the purpose of this study, qualitative research methodology was deemed appropriate. In qualitative research, the ability to control variables is not usually present, therefore it allows for unrestricted and natural emergence of themes which the researcher wishes to identify in the study (Henning, Van Rensburg, & Smit, 2004). Qualitative research methodology as used in this study involves the collection of a large amount of data from small number participants (Veal, 2005). According to Johnson (2010) qualitative research is a type of inquiry that uses different techniques in data collection with the purpose of carrying out a realistic analysis of the data generated based on the notion that reality is socially constructed. In Denzin and Lincoln's (2011) view, qualitative inquiry is one that situates the researcher within a world or group of interpretive activities that makes the world observable to the researcher. In other words, the researcher is intimately involved in the process. The data generated in a qualitative inquiry conveys the views, actions, and motives of individuals and the environment in which they find themselves (Myers, 2009). This method is most preferred for this study

because qualitative inquiry provides “an understanding and description of an individual’s experiences of a phenomenon” (Johnson & Onwuegbuzie, 2004, p. 20).

According to Cohen, Manion and Morrison (2007) the nature of the research question determines the type of research design, methodology, and techniques to be used in a study. In line with other educational researchers is the submission of Kane and O’Reilly-de Brun (2001, p. 107) who ascertain that “a problem or an issue that a researcher is studying should dictate the research design and most significantly the research techniques to be used”.

According to Bak (2004, p. 25), “a research design provides an indication of the means to be used to attain the research objectives”. Bak added that a research design sums-up the processes to be followed during the research and the sources for data collection. Punch (2009, p. 113) concurs with Bak and suggests that while conducting a research study the following questions are pertinent to the research design;

- Which approach is to be adhered to while conducting the research?
- Within which timeframe will the research be conducted?
- Where will be the source and location of data collection?
- What method will be adopted for data analysis and interpretation?

A research design is the schematic layout or plan that is used in conducting research in order to generate the data that will provide answers to the critical research questions set for the study. Discussed in the sections below is the research design for this study.

## **4.2 RESEARCH PARADIGM**

This study is located within the interpretivist paradigm. An interpretivist paradigm is of the view that knowledge about reality is socially constructed and can only be accessed through direct social interaction with people’s shared meaning, language, experiences and consciousness (Myers, 2009). According to Cohen, Manion and Morrison (2011) the aim of an interpretivist paradigm is to understand the subjective world of human experiences. The purpose of the study is to explore if there is an interface between skills acquired by Technical College graduates and the skills required by automobile, engineering, transport services and local Government Council with respect to their employability. This paradigm will enable me gain insight from stakeholders’ perspective on employability skills required from Technical College graduates.



### 4.3 CASE STUDY

This study uses the case study design; as its purpose is to explore employability skills for Technical College graduates as defined by the National Policy on Education (NPE) (2004) and Senior Secondary Education Curriculum (SSEC) (2008), teachers, graduates and employers of Technical College graduates. According to Yin (2008), when the aim of a study is to provide answers to the ‘how’ and why questions, where the researcher does not have control over the flow of information from participants, then case study is employed. Case study allows for an in-depth and detailed study of a situation rather than studying that particular situation in totality (Shuttleworth, 2008). Case study research is an investigation of multiple bounded systems conducted over time through detailed, in-depth interviews that involves several sources of rich in-context data (Creswell, Hanson, Plano, & Morales, 2007). Cohen, Manion and Morrison (2007, p. 170) see case study as “an inquiry into a specific instance or phenomenon in its real-life context.” Kumar (2011), Cohen, Manion and Morrison (2011) support this view by adding that case study seeks a profound understanding of a situation with the determination of capturing the real life context of an event. The case in my study is a group of Technical College graduates who have completed their study and are employed in the industry, and they form the unit of my study analysis (Yin, 2009, p. 30). The study can be seen as an “exploratory study” (Yin, 2009, p. 28), the reason being that my aim was to explore what the employers of labour requires in terms of skills for Technical College graduates to be fully employed.

Flyvbjerg (2011) argued that there have been so many criticisms on the use of case study as a scientific research technique due to its deficiencies for theory testing, validity and reliability, while others contended that case study lacks the capacity to exist as a methodology of its own since its usage is limited to smaller samples. These have led to misinterpretations with the use of the case study approach. Table 4.3 highlights the misinterpretations and improvements made

**Table 4.3: Misinterpretations on the use of case study as a scientific research technique**

S/N	Misinterpretation	Misinterpretation revised
1	General theoretical knowledge is better than concrete case knowledge	Predictive theories and universals cannot be found in the study of human affairs. Concrete knowledge is therefore more valuable than vain search for predictive theories and universals.
2	one cannot generalise on the basis of a single case, the case cannot contribute to scientific development	One can often generalise on the basis of a single case, and the case study may be central to specific development through generalisation as a supplement or an alternative to other methods. But formal generalisation is overvalued as a source of scientific development, whereas “the force of example” and transferability are underestimated.
3	While generating hypothesis, case study is considered the most useful method, while other methods are beneficial for hypothesis testing and building theories.	Case study is not limited to only research activities, but it can also be used for generating and testing of hypothesis.
4	The case study holds a bias toward verification-that is, a propensity to confirm the researcher’s predetermined ideas.	Here the reverse is the case as the case study holds no bias toward verification of the researcher’s predetermined ideas than other research techniques. But from experience, it is discovered that the case study holds a greater bias toward falsification of predetermined ideas rather than toward verification.
5	It is often difficult to summarise and develop general propositions and theories of specific case studies	It is correct that summarising case studies is often difficult, especially the case processes. But it is less correct as regards to case outcomes. The problems in summarising case studies however are due more often to the properties of reality studied than to the case study as a research technique. Most times, it is not desirable to summarise and generalise case studies. Good studies should read as narratives in entirety.

Flyvbjerg, 2011, p. 302

The revised misinterpretations contended that case study as a research method can be used to gather and analyse data independently or in conjunction with other methods, the reason being that case studies and statistical studies are not in conflict, but rather they are complementary as statistical studies is detailed compared to case studies (Flyvbjerg, 2011). Besides, it will have a far reaching effect to understand a phenomenon if it isolated from its backgrounds which dictates the use of inductive, qualitative approach in place of ‘hard’ measurement (Ghauri & Gronhaug, 2010).

The main focus of this study is to explore if there is an interface between skills acquired by Technical College graduates and the skills required by automobile,

engineering, transport services and local Government Council with respect to their employability.

#### **4.4 DATA SOURCE**

To gather primary and secondary data needed to answer questions set for the study, four major sources were chosen for information gathering, these are:

- Two Policy documents
  - NPE (2004); and
  - SSEC (2008)
- Technical College teachers
- Graduates of Technical Colleges presently employed, and
- Employers of Technical College graduates.

#### **4.5 SAMPLE AND SAMPLING METHOD**

For the purpose of this study, purposive sampling was used. According to Kumar (2011), Terre Blanche, Durrheim and Painter (2006) purposive sampling serves the aim of providing the researcher with those people who are likely to possess the necessary information for the study.

Two specific policy documents will be sampled of the study viz; the NPE (2004) and the SSEC (2008) these documents will provide the necessary information needed for the study. According to Bell (Bell, 2010, pp. 131-132), the selection of a document for analysis should be strictly based on its relevance to the study at hand and the time frame allotted to carry out the study.

Four Technical College teachers and graduates from the following trades were sampled:

##### **Building Trades**

- Blocklaying, Bricklaying and Concrete Work

##### **Electrical Engineering Trades**

- Electrical Installation and maintenance work
- Appliances repairs

##### **Mechanical Trades**

- Mechanical Engineering Craft Practice

The major aim of the Technical College programme is to prepare its trainees for gainful employment in public and private industry (NPE, 2004). These trades were considered because they form part of the public and private industry. Besides, there is of a high rate of employment within the building and engineering construction sector. Ahoada East Local Government Area (AELGA) where the Technical College is located and Ogba/Egbema Ndoni Local Government Area (ONELGA) a neighbouring town both play host to some multinationals in the construction, engineering, Oil and Gas Sectors

To generate a rich data needed to answer questions set for this study, only graduates who met the following criteria were selected for inclusion in the sample. The graduate must:

- Have successfully completed a three year vocational training programme in one of the Technical Colleges in the State (NPE, 2004).
- Have completed training within the time space of 1987, 1997, and 2007 (at least ten years interval).
- Be currently working in any industry in the state with at least three years' experience.

Four employers from the following field of operations were selected as sample. They consist of:

- Automobile Services;
- Engineering Services;
- Local Government Council (Municipality); and
- Transport Services.

As explained earlier, the above selected employers form part of the Multinationals in the Oil and Gas Sector in ONELGA; this makes it imperative for their selection.

#### **4.6 METHODS OF DATA COLLECTION**

Methods of data collection are tools the researcher adopts to collect the data needed to answer the research questions set in the study; the tools most often used in educational research include questionnaires, tests, interviews, observations and focus group discussions (Lauer, 2006). Data was collected through secondary and primary sources

(Clarke & Braun, 2013, p. 134). Data from secondary source was collected through document analysis, using the Jansen and Reddy (1994) document analytical tool, while for primary sources data was collected through interviews and focus groups. These data were collected to answer the research questions stated below.

### **Key research questions**

1. What are the sets of skills graduates from Technical Colleges need for employability as:
  - a) Recommended by the Nigeria National Policy on Education (2004) and Senior Secondary Education Curriculum (2008)?
  - b) Perceived by Technical College staff and graduates from Technical Colleges?
  - c) Required by employers of Technical College graduates?
2. Is there an interface as defined by the above stakeholders? If so, what is its nature?

For the purpose of data collection to answer the research questions outlined above, this section was divided into two phases. Phase 1 was further divided into two stages aimed to address the sub-questions of Research Question One, while phase two aims to provide answers to Research Question Two.

#### **4.6.1 Phase 1, Research Question One**

This phase provided answer to Research Question One. The phase comprises of three stages; where each of the stages provided answers to the sub-questions asked in Research Question One.

##### **4.6.1.1 Document analysis**

This stage aimed to answer the first sub-question of Research Question One, which explored the NPE (2004) and the SSEC (2008) for employability skills need of Technical College graduates. The document analysis was guided by Jansen and Reddy's (1994) ideas on policy document analysis (see Appendix H). There are four items considered while using the Jansen and Reddy's tool for policy document analysis. The items are:

- **Context:** This refers to the sources of the document, and the context to which it was produced (historical background of the document and the purpose behind its production).
- **Recommendations:** Recommended employability skills, the rationale, conception and the desired objectives to be met through the recommended employability skills.
- **SKAV:** Skills, knowledge, attitudes and values that will be developed through the recommended employability skills.
- **Implementation:** Measures to be taken to ensure successful implementation of the recommendations made.

The Nigeria National Policy on Education (2004) and the Senior Secondary Education Curriculum (2008) was cross-examined using the above listed items of the Jansen and Reddy (1994) document analysis tool. The purpose was to ascertain what the documents say about the employability skills required by graduates of Technical Colleges for them to be employed. McCulloch (2004, p. 36) says “documents were literally all around us”. Source of documents analysed were government ministries, institutional libraries, and organisations related to the study. Myers (2009) posits that archival research involves items such as annual reports, newspaper clippings, organisational charts, examination reports and meeting minutes which are relevant to supplement primary data and to help in research question design. Information retrieved and analysed from the document was only information relevant to the study as care was taken not to extract beyond the relevant information (Bell, 2010). Documents analysed gave me insight on the employability skills to be acquired by graduates of Technical College as recommended by the Nigeria National Policy on Education, also revealed from other documents analysed were how these skills were developed by educators through implementation of what is spelt out in the policy.

#### **4.6.1.2 Open ended questionnaires and focus group interviews**

At this stage, two focus group discussions were conducted which provided answer to the second sub-questions of Research Question One. The first focus group discussion was with staff of Technical College. This was followed by a second focus group with

graduates of the same institution. Besides, each of the focus group discussions was preceded by the administration of open-ended questionnaires.

#### 4.6.1.3 Benefits of focus group interviews

According to Myers (2009) focus groups create room for a group of individuals to share their opinions on a particular subject of interest based on certain shared experiences. The purpose of a focus group discussion is to produce answers to the ‘how’ and ‘why’ that yields rich, multidimensional, nuanced and even thought-provoking descriptions of how people attribute meaning to, and interpret their understanding (Kamberelis & Dimitriadis, 2011). A focus group discussion has the tendency to yield valuable amounts of data because it creates room for participants to share their individual views on how they perceive their experience (Murray as cited in Ngunjiri, 2013). There are several merits attached to the use of focus group discussions as posited by Fahad (as cited in Ngunjiri, 2013, p 108) as shown in Table 4.4.

**Table 4.4: Merits of Focus group discussion and its benefits**

S/N	Merit	Merits explained.
1	Synergism	Combined effect of the group produces a wider range of information, ideas, among others.
2	Snowballing	When a member of the group raises a comment, the comment often triggers a chain of responses from other participants in the group.
3	Motivation	Participants tend to respond quicker after the first course and are more likely to express their attitudes and feelings as the overall level of enthusiasm increases.
4	Security	Most participants find comfort in a group that shares their feelings and beliefs
5	Spontaneity	Since a participant is not meant to answer specific questions, their responses are likely to be more spontaneous and less conventional.
6	Serendipity	The ethos of the group is likely to produce wider ideas and often when least expected
7	Specialisation	The content allows a more trained interviewer to be used and minimise the possibility of subjectivity.
8	Scientific scrutiny	The nature of the research gives room for scrutiny in the technique by allowing the observers or by later playing back and analysing recording sessions.
9	Structure	Discussions afford more flexibility in the topics that can be covered and in the depth in which these are treated
10	Speed	Given that several participants are being interviewed at the same time, this speeds up the process of collecting and analysing data.

#### **4.6.1.4 Administration of questionnaires to Technical College teachers**

Seven copies of open-ended questionnaire were administered to teachers from the department selected for the study on the 25<sup>th</sup> of February, 2014. The questionnaire which consisted of five items (see Appendix E) sought to know participants' views about the Technical College curriculum, aspects of the curriculum they considered important/unimportant, skills they think are required by graduates of Technical College to be employed and the significance of such skills. The purpose of administering the questionnaire was to find out their views on employability skills for Technical College graduates and to prepare them for the focus group discussion. According to Kumar (2011) an open-ended questionnaire as an instrument for data collection avails participants the opportunity to express themselves freely. This was done to ascertain from participants what they understand about employability skills in order to prepare for the focus group. The questionnaires were retrieved on the same day, and a content analysis was carried out where their responses to each of the items in the questionnaire were organised in themes. Ghauri and Gronhaug (2010) contends that since participants in a study are given the opportunity to express their opinion freely in case studies, this leads to the generation of a large amount of data which may overwhelm the researcher. For proper handling of such large data generated, content analysis was applied to seek structures and consistencies in the data gathered (Myers, 2009).

#### **4.6.1.5 Focus group discussion with Technical College teachers**

On the 26<sup>th</sup> of February 2014, I held the focus group discussion with Technical College teachers which lasted about one hour thirty-seven minutes. However, only four out of seven teachers who completed the questionnaire made themselves available. Some teachers who completed the questionnaires opted out due to reasons best known to themselves; I had to work with the ones that were ready. This was accepted because of their agreement to take part in the study. According to Strewing and Stead (2001) participants in a focus group discussion may consist of four to eight persons; based on this assertion, the number of participants who took part in the discussion is relevant. The purpose of holding the focus group discussion with Technical College teachers was to ascertain their perception of the skills required by Technical College graduates to be actively employed. The schedule for the meeting was deduced from the questionnaires



administered. At the end of the discussion, I thanked the teachers for participating and they expressed their joy to be part of my research, and that they enjoyed such a method of research as it gave room for every participant to air his/her view.

#### **4.6.1.6 Administration of questionnaires to Technical College graduates**

The challenging aspect with this group of participants (Technical College graduates) was to get them together, since there was no database in the Technical College where they graduated from. This now led to the introduction of snowball sampling method to get them together. Snowball sampling is a situation whereby a member of the sample chosen for the study is used to get or reach others (Kumar, 2011). So, between 24<sup>th</sup> of February to 11<sup>th</sup> of March 2014, ten copies of open-ended questionnaires were administered to Technical College graduates who were purposively selected because of the strategic information needed to answer the research question (Kumar, 2011). The aim of administering these ten copies was to select a total of six participants, two each to represent the year and department under study. According to Cohen, Manion and Morrison (2007) an open-ended questionnaire avails participants' the opportunity of response. The question which had four items (see Appendix F) sought to know their experiences at GTC, skills they needed to be engaged in their present employment, the preparation they got from GTC, and any other view they had. The questionnaires were retrieved and analysed based on researcher's reflection (content analysis) (Hesse-Biber & Leavy, 2011), followed by the focus group discussions in order to validate participants' views.

#### **4.6.1.7 Focus group discussion with Technical College graduates**

As mentioned in the last section, through snowball sampling it was easy to get graduates together; this actually worked fine to a great extent, but where I encountered a huge challenge was convincing them to take part in a focus group discussion. At first, the focus group discussion was scheduled to be held on Sunday 2<sup>nd</sup> March, 2014, but out of six participants only two turned up. So we had to reschedule the meeting for 9<sup>th</sup> March, 2014, the same event repeated, this time it was only one person that came. Then we rescheduled it again to be held on the 11<sup>th</sup> of March. Finally, it was held on that day with four participants in attendance. The discussion lasted one hour, twenty-two minutes fifty-one seconds. The interview schedule was based on the questions in the

questionnaire administered to them. This method of data collection was opted for because it had the capacity to yield the results needed to answer the questions set for this study. According to Neuman (2006) focus group discussion is method of interview that involves a sampled group of persons carried out with the purpose of getting a better understanding of a particular subject matter rather than individual interviews.

#### **4.6.1.8 Administration of questionnaires to employers' of Technical College graduates**

The aim of this stage was to provide answers to the last sub-question of Research Question One. My intention was to sample ten employers of Technical College graduates; however, only five indicated interest to take part in the study. So, open-ended questionnaires were administered to them between 24<sup>th</sup> February to 5<sup>th</sup> of March, 20014. The six items included in the questionnaire (see Appendix G) sought to know from employers which skills they required from Technical College graduates, their significance to their firms, and additional comments from them concerning the study. I retrieved the questionnaires from them, had my reflection (content analysis) on their responses and convened a focus group discussion to validate their response. This was done to clarify with them the skills they require from Technical College graduates for them to be actively employed.

##### **4.6.1.8.1 Semi-structured interview with an employer**

This stage was not in the original plan of this study; however, since the employer could not meet with the time schedule for the focus group discussion with other employers a semi-structured interview was scheduled separately with him. The interview was held between the researcher and the employer, the researcher led the session by asking the interviewee some probing questions based on the skills which were deemed necessary to be possessed by Technical College graduates. Neuman (2006, p. 304) asserts that “the interview is a short term secondary social interaction between two strangers with the explicit purpose of one person obtaining specific information from the other”. According to Cohen, Manion and Morrison (2011) before the real interview exercise, a proper plan has to be made on the context, procedures and the type of questions to be asked, and this follows a schedule format, they further added that the semi-structured interview allows for flexibility and freedom. A semi-structured interview provides

valuable information from the context of the participants experience since it does not limit the respondent (Hesse-Biber & Leavy, 2011).

#### **4.6.1.9 Focus group discussion with employers' of Technical College graduates**

The focus group discussion with employers was held on the 13<sup>th</sup> of March 2014. However, after scheduling a focus group meeting on the 13<sup>th</sup> of March 2014 with employers; one of the employers later asked for permission to be interviewed alone due to his official engagements on the scheduled date. I granted him the interview because it had been a difficult experience getting them to participate. So I held a one-on-one interview with him on him on the 9<sup>th</sup> of March, while the rest employers took part in the discussion already scheduled for 13<sup>th</sup> March. Among the remaining four, one employer was unavoidably absent because a close member of his family passed on, so only three took part in the discussion. The meeting lasted for fifty-seven minutes and fifty-five seconds.

#### **6.6.2 Phase II: Research Question Two**

The aim of phase two was to provide data to answer Research Question Two. This was achieved through data generated from Research Question One through document analysis, focus group discussions and semi-structured interview.

#### **4.7 FIELD WORK EXPERIENCES**

Working on the field was never an easy experience. As at the time of this study, the country was experiencing a scarcity of fuel which impaired some of my movements. Besides, the northern part of the country was besieged with security threats, and that is where the Board headquarters that manages Technical Colleges in Nigeria (NBTE) is located. Some participants when they were asked to sign consent forms refused as they saw it as indicting, and this took me a long time to convince them that I was not there to indict anybody. The normal four weeks on my data collection plan was exceeded because of this and the plan was not followed orderly. After much rapport was established among participants, those who were willing to participate participated. The section below explained the experiences I had while working on the field.

#### **4.7.1 Visit to Companies (Employers)**

This was one of the areas where I experienced some difficulties. Some employers I discussed with refused to participate. Getting employers together for a group discussion was one of the most difficult experiences I met on the field. One of the employer's I met demanded for compensation before he will take part in the study, and agreeing with his request would automatically introduce a bias in the study. All efforts to pacify him to be part of the study proved futile, so I had to let him go. The next was not ready because he always had a busy schedule; this also affected the Technical College graduate who works with him. The graduate agreed to take part in the study; he completed the questionnaire, but was not available to return it, so I could not retrieve it.

On February 4 2014 I visited an employer, when I got there I met the director of the company. I introduced myself and the purpose of my visit; he asked how he could be of help to me, then I told him as research ethics demands he has to fill an informed consent form. The moment he heard that, he was upset, he said:

*“.....ah me I don't want to sign any document o!”*

Though he later directed me to his manager who received me after I gave detail of my visit and purpose, he collected read and signed the informed consent for me. He gave me his too.

#### **4.7.2 Visitation to Government Technical College**

On the 25<sup>th</sup> of February, 2014 I visited the Government Technical College Ahoada the Technical College chosen for the study. On arrival, I met with the security who directed me to the Principal's office. When I got to the office, I met with the principal who gave me a warm reception when I disclosed the purpose of my visit. He demanded for my identity card which I showed to him, thereafter I gave him the informed consent and he read through and signed and I gave him a copy and retained mine. More so, he assured me of his staff compliance as he introduced me to the Head of department Building, who he instructed to give me all the assistance I needed to make sure the research was successful.

Same day, the Building HOD after I explained the purpose of the research to him collected the questionnaires and distributed to all his fellow HODs and staff. On his return from the distribution, he said, I quote him verbatim;

*“...whatever you want to do with us, do it immediately; you only have today and tomorrow to do your work because we are going on break”.*

#### **4.7.3 Visit to State Ministry of Education**

My visit to the State Ministry of education was made on the 18<sup>th</sup> of March, 2014. That was the last place I visited for my data collection exercise. In the early hours of Tuesday at about 10:00hrs, I met the State director of the ministry. After I introduced myself and the purpose of my visit, she demanded for my student identity which was made available to her. She later took me to the curriculum department where the curriculum of Technical Colleges was given to me. This was the only document they were able to produce, directing me to get other policy documents at the National headquarters of National Board for Technical Education (NBTE) which is in Kaduna, a state in Northern Nigeria. Considering the security situation in the country, the incessant killings by the terrorists group Boko Haram I could not make it to Kaduna since the environment was very volatile (*see Appendices I, J, & K*). Travelling from Rivers State to Northern Nigeria was a big threat to all who wished to travel; as anyone who travel does that at his/her own risk. In order not to put my life in jeopardy, I decided to stay away from embarking on the journey. However, this limited the documentary aspect of this research to the two documents analysed.

#### **4.8 DATA ANALYSIS AND INTERPRETATION**

Data generated in the study were analysed in phases and stages where each of the phases and stages involved analysis of data that addressed the research questions that inform the study. These involved document, content, focus group and semi-structured interview analysis.

##### **4.8.1 Phase I: Research Question One**

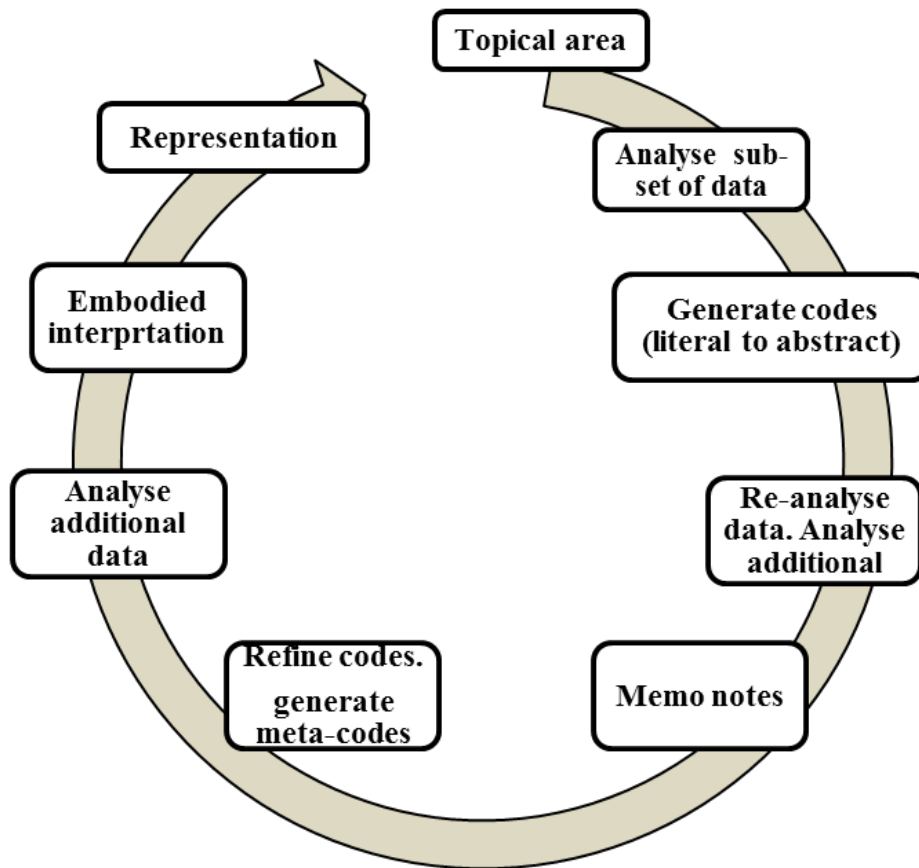
This phase addressed Research Question One. The stages involved in this phase are explained in detail in the following section.

#### **4.8.1.1 Stage I: Document analysis**

Policy documents produced by the Federal Ministry of Education over the past fourteen years were gathered together with the aim of finding out employability skills to be developed by students in Technical Colleges from 2004 until the time this research was conducted. The documents were analysed using Jansen and Reddy's (1994) analytical tool. The tool made it possible for me to interrogate each of the policy documents. It tool enabled establish what led to the origin of such policy that is the context of the origin, recommendations made, identify skills, knowledge, attitudes, and values the policy wishes to achieve, and finally what measures were put in place to ensure a successful implementation policy.

#### **4.8.1.2 Stage II: Content analysis**

The analysis started with the administered questionnaires, this was done through content analysis which prepared the ground for the focus group discussion (Hesse-Biber & Leavy, 2011). In the views of Hesse-Biber and Leavy, content analysis is a repeated or 'spiral' method to knowledge-building where data are increasingly analysed bit by bit. In the process "The researcher generates new understanding with varied levels of specificity, during each phase of the project and uses this information to double back and gain more information" (Hesse-Biber & Leavy, 2011, p. 234). Figure 5 shows the spiral stages in content analysis.



**Figure 5: A Qualitative model (inductive) showing stages in Content analysis**  
(Neuendorf 2001 as cited in Hesse-Biber & Leavy 2011, p. 234)

Figure 5 depicts the various stages in content analysis. Though sometimes these stages are not followed exactly as the layout presents, it is a prototype on how to analyse and interpret data.

#### **4.8.1.3 Stage III: Thematic Analysis**

Data generated from respondents in this study through focus group discussions and semi-structured interview were analysed in stages using the thematic method (Clarke & Braun, 2013; Hesse-Biber & Leavy, 2011).

The first stage was transcription of the recorded focus group discussions and semi-structured interview; second stage was reading and familiarisation with interest on items noted; thirdly, it was followed by open source coding through close examination of the

data using the questionnaire items from our focus group discussions; then themes were sought for; the fifth stage was review of the themes that emerged, which preceded defining and naming of the themes for subsequent reporting.

The stages of analysis outlined above provided data which answered Research Question One.

#### **4.8.2 Phase II: Research Question Two**

This phase addressed Research Question Two. Data for the second research question was analysed using the interface concept (Singh-Pillay, 2010). This was achieved through cross-analysis, whereby the themes that emerged from the analysis of data generated from policy documents, teachers, graduate cohorts and employers were juxtaposed for interface among the three stakeholders.

The final stage of analysis in this study involved the use of the theoretical framework to make sense of the data generated from findings of: policy recommendations, teachers and graduates perception and employers requirements on employability skills which graduates of Technical Colleges needed to possess to be employed. More so, the framework was also used to ascertain the type of relationship that exists between the Technical College, industry and government.

### **4.9 RESEARCH VIGOUR**

Every research study is subject to an open critique and evaluation. Without this, the value of the study, soundness of its methods, accuracy of findings and the quality of assumptions made or conclusions reached could be questionable (Long & Johnson, 2000, p. 30). Results of data collected and analysed in my study were exposed to criticisms from other researchers in the field of study.

#### **4.9.1 Validity**

Validity is a research terminology which verifies if the researcher is actually carrying out the proposed research. It is achieved through a consistent check on the instrument of measurement. Ensuring objectivity is not an abstract activity, but it cuts across all efforts undertaken to ensure accuracy in all evidence that the research is based on (Silverman, 2010, p. 366). In qualitative research, significant attention is given to internal validity; because it does not allow for statistical testing. Yin (2008)



recommends, in conjunction, to address divergent views, different responses from participants in the group be checked for consensus. More so, to achieve internal validity, methods such as pattern matching, explanation building, logic models, or addressing conflicting descriptions are used. As stated by Amerson (2011, p. 428) “construct validity can be achieved using several sources of evidence, sustaining an arrangement of proof, and having a key informant review the draft of the case study report or through member checking”. During the focus group discussions, I asked participants for clarity where there were divergent views in order to ascertain a consensus response which helped to achieve internal validity.

Construct validity was achieved through utilising several sources of evidence; all audio recorded interviews were kept safely and reviewed during analysis to avoid uncertainty.

Further, many researchers in qualitative research submit that to evaluate and ascertain the quality of a qualitative research work, terms such as trustworthiness, relevant, confirmable, credible dependability, transferability or plausible are used (Norman K. Denzin & Lincoln, 2005, p. 24).

However, to ascertain the extent and how worthwhile my research will be, I have adopted credibility in place of validity.

#### **4.9.2 Credibility**

In other to ensure credibility of my study, there were detailed description of the settings, participants and themes of my study (Creswell & Miller, 2000, p. 128).

#### **4.9.3 Triangulation**

Triangulation is also a means of ensuring validity. It is done to increase credibility and check dependability and is accomplished by sourcing information from multiple sources to form themes (Creswell & Miller, 2000, p. 126). To prevent bias and improve trustworthiness in this study, data were collected through document analysis, an open-ended questionnaire, one-on-one semi-structured interviews, and focus group interviews.

## **4.10 ETHICAL CONSIDERATIONS**

The involvement of humans in social science research generates room for the possibility of ethical issues (Burns, 2002). Ethics as defined by De Vos (2002, p. 75) is “a set of principles with widely accepted morale suggested by an individual or group; ethics offers rules and behavioural expectations to subjects, respondents, employees, sponsors, researchers, parents and learners”. Ethics centres on moral justification of doing the right or wrong thing when there is interaction with humans, animals or the environment and must be given due considerations at different stages in the research process (Miller & Brewer, 2003). While dealing with participants in a study, the following responsibilities should be assumed: the rights of participants taking part in the research, the rights of participants in data and publication, circumventing harm to participants, avoiding undue intrusion, interactive information and obtaining informed consent, rights to confidentiality and concealment, fair return for assistance (Laws, Harper, & Marcus, 2003).

### **4.10.1 Informed Consent**

The rights of individuals (participants/respondent) taking part in a research study is expressed as informed consent, anonymity, privacy and confidentiality (Cohen et al., 2011). Informed consent entails that the participants taking part in a study must have the legal and mental capability to accept taking part in a study, and also reserve the right to withdraw as and when they wish to, particularly when the purpose of the study is not clearly made known to the participants. In some cases, there could be deception emanating from the refusal of the researcher to make known the purpose of the study to participants (De Vos & 2002).

In order to refrain from such challenges emanating from participants opting out half way through the study, I explained to the employers, educators and graduates of Technical Colleges the purpose of my study. The idea of inducement of any kind to participants was highly discouraged in order to avoid bias in the information provided by participants of my study.

#### **4.10.2 Ethical dilemmas**

The use of or analysis of documents in a study could pose some challenges to the researcher; this is because the analysis of some documents could result in a stigmatised reputational damage to an institution of agency, and the researcher could face societal discrimination as a result (McCulloch, 2004). However, McCulloch (2004) opined that such researchers were seen as broadcasters because every organisation would always improve on their unsafe practices. Having this in mind, I knew that the documents analysed in this study were not produced by the participants who gave me access to it, and as such it called for high morale ethics which was also taken care of. Besides, as an educator that has served for some years with experience, the ethics of the teaching profession was applied; this allowed participants the freedom of participation without being compelled. All these were achieved when I issued an informed consent to the principal of Government Technical College, Ahoada, Rivers State, Nigeria seeking permission to conduct research at the Technical College, and the educators who participated in the study, who all then granted me their consent.

Consequent upon the considerations presented above I put in place all ethical measures in order to cushion challenges arising from research ethics. In line with the institution's research ethics, before I proceeded to the field for data collection I applied for ethical clearance from the University of KwaZulu-Natal Research Ethics Committee which was subsequently granted on the 30<sup>th</sup> of January, 2014.

#### **4.11 LIMITATIONS OF THE STUDY**

One of the most difficult and challenging situations encountered in this study was access to policy documents. It was an awful experience; custodians of these documents were not ready to render assistance in anyway, thus making it difficult to access all documents required to carry out the study. Furthermore, it was a heinous task getting participants' to assemble together for the focus group discussions, particularly Technical College graduates.

##### **4.11.1 Generalisation of result**

The generalisation of the result of this study to other technical institutions in Rivers State Nigeria may not be possible, the reason being that since the sample of the study

was purposively selected this makes it very difficult. Thus the results will only apply to Government Technical College in Ahoada Rivers State, Nigeria.

#### **4.12 CONCLUSION**

Discussed in this chapter were the research design, methodology, methods used for data collection, instruments, sampling and sampling techniques, credibility, and data analysis. Finally, the chapter concludes by discussing the ethical issues and limitations of the study.

The next chapter will present and analyse data gathered in this study.

## **CHAPTER 5**

### **DATA ANALYSIS AND INTERPRETATION**

This chapter presents the analysis of the Research Question One, namely: *What are the set of skills graduates from Technical Colleges need for employability as:*

- a) Recommended by the Nigeria National Policy on Education 2004 and Senior Secondary Education Curriculum 2008?
- b) Perceived by teachers and graduates from Technical Colleges?
- c) Required by employers of Technical College graduates?

In this regard, it is divided into three parts. Part One presents the analysis of the two policy documents interrogated, namely, the Nigerian National Policy on Education (2004) and the Senior Secondary Education Curriculum (2008). Parts Two and Three present the analysis of the focus group interviews with Technical College teachers and graduates, as well employers from the automobile, engineering, transport service and local government councils, respectively. To conclude the chapter, a summary of the findings of employability skills needs of Technical College graduates from the stakeholders involved in the study, is provided in table format followed by a brief analysis as drawn from each stakeholder.

#### **5.1 RESEARCH QUESTION ONE: EMPLOYABILITY SKILLS RECOMMENDED BY POLICIES**

- What are the set of skills graduates from Technical Colleges need for employability as recommended by:
  - (i) the Nigeria National Policy on Education (2004); and
  - (ii) the Senior Secondary Education Curriculum (2008)?

In the following section, I present the analyses of the above two policy documents.

### 5.1.1 Analysis of policy documents

As mentioned in Chapter Four, the analysis of the above two policy documents was carried out using Jansen and Reddy's (1994) policy document analysis tool. The tool suggests the following four factors to be considered in the analysis:

**Context:** This refers to the sources of the document, and the context in which it was produced (historical background of the document and the purpose behind its production).

**Recommendations:** The rationale behind the recommendations made, also the conception of the recommendations according to the policy.

**SKAV:** What skills, knowledge, attitudes and values are targeted to be achieved through the policy recommendations; how are the recommendations made going to be achieved practically?

**Implementation:** Measures to be taken to ensure successful implementation of the recommendations made.

For the purposes of this chapter, which is to answer the Research Question One, the analysis will only focus on the third factor which talks directly to the skills, knowledge, attitudes and values that are targeted to be achieved.

### 5.1.2 National Policy on Education (NPE) 2004

According to this policy document, skills to be acquired by trainees of Technical College programmes cover technical skills in the following eleven trades:

**Mechanical:-** Agricultural Implement and Equipment Mechanics work; Automobile Engineering Practice: Autobody Repair and Spray Painting, Auto Electrical work, Autobody Mechanics' work, Autobody Building, Part-Merchandising; Air-conditioning and Refrigeration: Mechanics' work; Mechanical Engineering Craft

Practice; Welding and Fabrication; Engineering Craft Practice; Foundry Craft Practice; Instrument Mechanics' work; and Marine Engineering craft.

**Computer Craft Practice:** - Computer Maintenance work and Data Processing.

**Electrical Engineering:** - Electrical Installation and Maintenance Work; Radio, Television and Electrical Work; and Appliances Repairs.

**Building:** - Blocklaying, Bricklaying and Concrete Work, Painting and Decorating, and Plumbing and Pipe-fitting

**Wood:** - Machine; Carpentry and Joinery; Furniture Making; and Upholstery

**Hospitality:** - Catering Craft Practice.

**Textile:** - Garment Making (Ladies/Men Dresses); Textile Trades; and Dyeing and Bleaching.

**Printing:** - Printing Craft Practice, Ceramics.

**Beauty Culture:** - Cosmetology.

**Business:** - Stenography, Typewriting, Store Keeping, Book Keeping, and Office Practice.

**Others:** - Leather Goods manufacture including shoe making and repairs.

**Basic skill:** - self-reliance; employers of others (business owners); computer literacy.

The skills outlined above are to be achieved through quality instruction delivered at all levels of education. This instruction has to be oriented towards imparting the following attitudes and values:

- Respect for the value and dignity of the individual;
- Faith in people's ability to make balanced decisions;
- Moral and spiritual principle interpersonal and human relations;
- Shared responsibility for the common good of society;
- Promotion of physical, emotional and psychological development of all children; and
- Acquisition of competencies necessary for self-reliance.

In the next section, I present the analysis of the second policy document, the Senior Secondary Education Curriculum (2008).

### **5.1.3 Senior Secondary Education Curriculum (SSEC) 2008**

According to this policy document, skills to be acquired by trainees of secondary schools and Technical College programmes cover the following three technical trades and ten basic skills:

**Technical trades:** - Mechanical Engineering Craft Practice; Blocklaying, Bricklaying and Concrete Work; Electrical Installation and Maintenance Works.

**Basic Skills:-** Basic communication; Listening; Reading and writing; Scientific and Creativity; Entrepreneurial; Visual communication of ideas in construction and production industries through ICT; Mathematical literacy; analytical thinking; Capital market; Interpersonal and Human relations; Decision skills and Personal responsibility.

It is interesting to note the shift in emphasis of this policy compared to the NPE 2004 in relation to the attitudes and values foregrounded. This policy is oriented



towards equipping recipients with the understanding of economic principles and concepts; contribute intelligently to discourse on economic reforms and development; become sensitized to take part actively in national economic development through entrepreneurship, capital market, among others. The target is to attain the Millennium Development Goals (MDGs) and the critical targets of the National Economic Empowerment Development Strategies (NEEDS). This is summarised as: value reorientation, poverty eradication, job creation, wealth generation and using education to empower people. The emphasis of this policy does not revolve around an individual compared to the NPE which centres on individual's potential benefits.

I now turn my attention to the analysis of the data generated through the focus group interviews with Technical College teachers and graduates as well as employers from the following industries namely; automobile, engineering, transport services and local government councils

## **5.2 RESEARCH QUESTION ONE: EMPLOYABILITY SKILLS AS PERCEIVED BY TEACHERS AND GRADUATES**

- What are the set of skills graduates from Technical Colleges need for employability as perceived by:
  - (i) Technical College teachers; and
  - (ii) Technical College graduates

I begin the next section with the presentation of the findings from the Technical College teachers followed by that of graduates.

### **5.2.1 Technical College teachers**

According to Technical College teachers' perceptions, the following skills are imperative in any Technical College graduates' programme.

**Trade related: -** Mechanical: with emphasis on productivity skill; Building: - with emphasis on productivity skill; Electrical: - with emphasis on productivity; Maintenance.

The above is corroborated by the following excerpts below as drawn from the focus group interviews.

*P1: “....skills that are already established in the institutions, and the middle manpower is what they will obtain in the various.....eh...skills, in the various areas of their specialisation(building trade)... whatever skill they acquire there is pertaining to the trade he has learnt ”*

Correspondingly, Participant 4 alleged:

*“....technical skills of the area of specialisation (Electrical)... ”*

Alternatively, another participant said:

*P3: “....one has technical skill, maintenance skill, productivity skill (Wood/Mechanical)... ”*

The participants’ responses from the excerpts above show that graduates’ of TCs need technical skills to be actively employed in the industry. Comparatively, the last participant included maintenance and productivity skills which are not covered in the curriculum in addition to the trade related skills in the area of specialisation mentioned in the first and second excerpts. The finding is in line with policy recommendation for TC trainees (NPE, 2004); though in the policy maintenance skills are conspicuously not included as part of the skills required by Technical College graduates for employability.

**Basic skills:** - Self-reliance/ Entrepreneurial; Writing; Reading; Communication; Mathematical; Problem-solving; Thinking skills.

Three among the four participants addressed seven different basic or soft skills; this is evident in their comments:

*P4: “... you should be able to have these writing skills, reading skills ...in addition entrepreneurship skill is needed...communication skills, mathematical skill, problem-solving, thinking skill...”*

Similarly, this was confirmed by another participant:

*P1: “...the writing skill ... the communication skill, mathematical skill ...”*

In affirmation, the last participant alleged:

*P3: “...if one has reading skill, writing skill...”*

From the excerpts above, it is evident that TC graduates require basic/soft skills to be actively employed. Writing and reading skills appear common in the first and last excerpts, while communication and mathematical skills appear common in the first and second excerpts.

From teachers' perspective, these skills when acquired by Technical College graduates grants them the opportunity to secure jobs, create employment for others, become problem-solvers and make a meaningful impact on society. This to some extent conforms to the SSEC, which has among its aims making recipients of the Technical College programme contributors to economic and national development.

The next section presents response from Technical College graduates with regards to the Research Question!

### **5.2.2 Technical College graduates**

In relation to Technical College graduates, the following skills were foregrounded.

**Trade related skills:-** Mechanical: Drilling, Shaping, Machining, Forging, Turning, Welding Use of hand tools; Building: Skills in the use of building construction machines and hand tools in Concrete work; Electrical: Electrical installation and maintenance, Appliances repairs.

The above listed skills are justified in the excerpts below:

P1: “... *Electrifications, distribution of power supplies, installation, maintenance of power plant, generators, minor repairs of electrical appliances(trade related skills in electrical) ...*”

Another participant said:

P2: “... *with the lathe machines you can do drilling, with lathe machines you can do both & nut, you can do many things with lathe machines you can produce parts... So you can use the machines to machine all those things as well when you produce finish (trade related skills in mechanical)... So other things which I learnt through that NEW about Coil, so that if you want to produce fan you must produce coil first that will carry the fan to fan (trade related skills in electrical) ...*”

This was also confirmed by one of the participants:

P3: “.... *I saw poker vibrator / vibrating machines which we used for compacting concrete... I saw what they call tilting drum machines, I saw the one they call surface compacting machines, and so on I saw what they call cone which we use for compacting teds... but as I came to the Education sector I saw those things, I touched, I filled them and I used (practical skills in building construction) them as well in fact by the disposition of these equipment I’m even using it to teach students how to manipulate them (trade related skills in building construction)”*

In affirmation to trade related skills another participant said:

P4: “... *I still assist students in practical works as regards the lathe machines, shaping machines majorly in welding aspect, because my experience in previous employment granted me in welding ... in FCE (T) like I told you I assist technicians in students practical ... I assist actually if it is in terms of practical, lathe machines, turning I take them, manipulate the lathe and also show them how to work on the lathe, the drilling machines, there are hand tools*

*you will use to execute your practical jobs ... to forge a material to shape, you need the furnace or the forging machines is also there, which you manipulate, you teach them how to use ... all those things (trade related skills in mechanical) ... I assist the students and so many other things that I can't mention ..."*

From the excerpts of Participants' 1, 2, 3 and 4, it is seen in lines 1 and 2, 1-4, 5-7 and 1-8 respectively that they all required trade related (technical) skills to engage in the various activities they find themselves in. Besides, the excerpt from Participant 2 lines 4-6 shows the acquisition of electrical skill added to the mechanical skill already possessed. Similarly, Participant 4 also gained additional experience of welding skills added to the area he was trained while in his previous employment as indicated in lines 2 and 3. From both participants' experiences, one can conclude that outside the skills acquired while in Technical College, additional skills are acquired in industry.

**Basic skill: - Self-reliance**

This is highlighted in the excerpts below:

*P1 "....if you're not opportune to be employed by industry, you can still be self-employed... "*

Similarly, another participant confirmed:

*P3 "...However, the far knowledge I have gathered enhanced my readiness to acquire more skills in the wider society to actually meet up the challenges of unemployment ...because without acquiring that skill maybe I would have been among the unemployed youth because the white collar jobs are no longer available ..."*

In affirmation of overcoming the problem of unemployment due to the acquisition of self-reliance skill, another participant said:

*P2: ".... because my time of study I acquire knowledge there and the knowledge which I acquired there has made me who I am today... because I have search*

*for company work, no way because of Government Technical College (GTC) I have my own company, so GTC is very good”*

The last participant added:

*P4: “... It was the preparation of GTC that made me know the value of skill acquisition, so the GTC really prepared my life. Today job or no job I think I can sustain my life, I still even teach people how to sustain their lives, it was GTC’s preparation. I still remain that GTC is good for anybody who wants to be useful in life...”*

From the excerpts above, it is seen in both comments made by Participant 1 that self-reliance skills are acquired through GTC preparation; same applies to Participant 3 lines 2-4, Participant 2 lines 2-3, and finally Participant 4 lines 1-3. The self-reliant skills acquired by these participants have been applied in various ways; for Participant 3 it helped him overcome the challenges of unemployment, Participant 2 through the skill owns a company, while Participant 4 through the same preparation today trains people. This finding of being self-reliant is in agreement with policy recommendation for GTC trainees (NPE, 2004).

The next part presents responses from employers of Technical College graduates on skills required for employability.

### **5.2.3 Research Question One: Employability skills as required by employers**

- What are the set of skills graduates from Technical Colleges need for employability as required by:
  - (i) Employers from the under listed industries:
    - Automobile Services;
    - Engineering Services;
    - Transport Services; and
    - Local government councils

### 5.2.3.1 Employers of Technical College graduates

In relation to employers, the under listed skills were emphasised as required by Technical College graduates to be actively employed.

**Technical skills:** - Mechanical: Welding; Electrical; Civil (Building); Safety: Fire fighting

This could be seen in the excerpts below:

*P1: “.... we need mechanical skills, we need like I said electrical skills, civil skills...”*

Likewise Participant 2 said;

*“.... we need mechanical skills, electrical skill, and welding skill...”*

Participant 3 confirms that;

*P3: “Erm basically I said mechanical skill...”*

The last participant affirmed that:

*P4: “.... they should also have basic technical/engineering background ... basic electric knowledge ... fire-fighting skills and basic safety skills ...”*

From the excerpts of the first, second, third and last participants, it is seen that Technical College graduates need to possess technical skills to be employed in any of these companies. The difference between the first three excerpts and the last excerpt is the inclusion of background knowledge and additional technical skills in fire-fighting and safety. This highlights Mechanical: Welding; Electrical, Civil (Building) construction, Safety: Fire-fighting skills.

**Basic skills:** Administrative; Public relation; Interpersonal; Communication; Reading; Innovative/creativity; Quick adaptation; Ability to work with less supervision; Ability to acquire skill; Teamwork; Willingness to learn; Basic technical drawing interpretation and Mathematical literacy.

This is revealed in the comments below:

*P1: “...we need administrative skills... public relation skill, the other we call interpersonal skill ... express themselves in spoken English ... ability to acquire skills in the daily discharge of duties... and innovative skill.”*

Similarly another participant said:

*P2: “.... like I said before team spirit (teamwork), quick adaptation, and the ability to work with less supervision”*

Participant 3 confirmed that:

*P3: “....willingness of the trainee or the employee to ... learn since we are involve in training personnel”*

Conclusively, the last participant said:

*P4: “.... They should be able to identify figures ... they should understand numerical value, and they should be able to read things written in English ... he should be able to interpret basic technical drawings , they should be able to quantify value, difference between one value and another ... he should be able to communicate ...”*

From lines 1-3, 1 and 2, 1 and 2, and 1-6 of the first, second, third and last excerpts it is seen that soft skills are required by employers from TC graduates for them to be employed. One among the employers (Participant 3) does not only recruit TC graduates but also trains people in their company. This finding corroborates those Saskatchewan Institute of Applied Science and Technology Canada who argued that for



graduates' from technical related fields to succeed in the workplace they need skills such as communication, willingness to learn, flexibility and decision making (SIAST, 2003). This is supported by the Academy for Education Development (AED, 2008) which notes that employers nowadays seek employees with personal attributes such as teamwork skills, creativity skills, problem-solving skills, entrepreneurship, and personal improvement among others. These skills as stressed by employers are to enhance the smooth running of their establishments, maximise profit and ensure a good interpersonal relation with others.

The next section presents issues raised by three amongst the four stakeholders namely; teachers, graduates and employers that impeded the effective development of these employability skills in Technical College graduates. I shall start with teachers, followed by graduates and finally conclude the section with employers.

### **5.3 CHALLENGES TO EFFECTIVE EMPLOYABILITY SKILLS DEVELOPMENT AS OUTLINED BY STAKEHOLDERS**

#### **5.3.1 Technical College Teachers**

Technical College teachers attributed the challenges of effective development of the required employability skills in Technical College graduates to the following factors: lack of training facilities, building infrastructure and modern equipment; overcrowded classroom; and poor administration of technical education due to absence of qualified personnel. Others include; lack of funds, lack of partnership amongst government, industry and Technical Colleges, and inadequate qualified technical personnel and poor staff development.

##### **5.3.1.1 Lack Training Facilities, Building infrastructure and Modern Equipment**

Two among the four participants foreground lack of training facilities, building infrastructure and modern equipment for practical, these they indicated their various comments:

*P1* “... Government supposed to bring training materials every year, update the equipment they use in the workshop, ....but when you now bring one machine and that machine, you won't know that you would go to the industry and you now see another type machine you cannot know how to operate that machine,

*so government is killing the system because they did not bring training materials and update the equipment....So virtually all the materials that we require that would have been produced by the government is not produced. The government refuse to bring them, so how can we do theory without practical... actually a Technical school supposed to have a studio, which is a place where all these interpretation of drawing would be done They refused to build a place ... this school /classroom can accommodate and one could be teaching err...conveniently and the students too will draw conveniently. There is no space, that is why we are now saying that if the government realises that a curriculum has been drawn for this group of persons, they should have also followed up to create the chances for the curriculum to flow”*

Similarly, on the provision of training materials another participant said:

*P4 “....So just as he mentioned every year we write out training materials but we are not seeing, nothing is given.... I will always add, if these tools are provided, materials are provided ...we don't have workshops, like Electrical we don't have workshops; we need workshops to be built. Like here, I requested for extension so that we will have other rooms, store room, our practical where to store it is not there. These things are affecting us...”*

From both excerpts, it is evident that Technical College lacks training facilities, building infrastructure and modern training equipment to facilitate the acquisition of these employability skills by trainees.

### **5.3.1.2 Overcrowded Classroom**

One participant foregrounds the number of students expected to be accommodated in a classroom, and decried the overcrowded classroom as is shown in the comment below:

*P4: “... The normal population or number of students to a teacher is supposed to be 12 in the Technical school, later it was made 20 per teacher ...but today a teacher is controlling more than hundred, so how can that teacher devote time to attend to students because it is skills work, practical work you attend to students one after the other. So that is affecting the system”*

The first three lines of the excerpt above show that the classroom is over populated, while the last three lines show the negative impact of the overcrowded classroom. This finding contravenes the defined teacher-student ratio of 1:20 for effective learning and practical exercise trade related subjects such as Electrical and Mechanical as recommended in the policy (NPE, 2004).

### **5.3.1.3 Poor Administration of Technical Education Due to Absence of Technical Schools Board and Qualified Personnel**

Three participants voiced their opinion on the establishment of Schools Board to manage technical and vocational education in the State as seen in the comment below:

*P3: “...opening a Technical Schools Board which will manage and run the affairs of Technical Schools, I think things will change. As much as we are having ordinary one single ... Schools Board to manage both Secondary and Technical it can't work”*

Similarly, another participant confirmed that:

*P1: “... at Lagos they have a Technical ...erm a Technical something; I have forgotten what they call it... if Rivers State can follow that, and then provide these ... Board for Technical Schools I think the....the problem will be solved ...”*

Participant 4 admitted that:

*“... in Rivers State, Technical Schools is managed by ....eer Secondary Schools Board who attach no interest that's why whenever money is released, they divert it to Secondary Schools ... Technical Schools are managed by non-Technical/Vocational officials who attach no interest to Technical Vocational Education. Vocational Education should be minded by Technical and Vocational officials.”*

Lines 1 and 2 of the first excerpt, 2 and 3 of the second and third excerpts show the absence of a Schools Board for technical education in the State. Comparatively, it is

also seen in the first and last excerpts that Technical Schools are managed with general education, while the excerpt from Participant 1 shows the existence of a separate board in another state that manages Technical Schools alone.

#### **5.3.1.4 Lack of Funds**

Two amongst four participants responded to the issue of funding as shown in the excerpt below:

*P1: “...Nigeria will really focus on Technical Education, Technical Education at this stage, and ...eer pump in money ... to aid their practical .... no how I believe Nigeria will be like ...eer China, America, ...eer that they export those things for us to buy, we will be exporting our own too for them to buy ”*

Alternatively, another participant confirmed that:

*P4: “....curriculum is not fully implemented because of lack of interest in technical education, government are not caring for, and they waste technical education. Much money in secondary Schools that offer general studies, but the vocational /technical Schools are the Schools for employability and productivity that will improve the economy of the country these areas they never looked, but a high budget is proposed for it every year but not given out”*

From the excerpts above, it can be seen that there is a lack of funds to finance students’ practicals. Besides, it is also obvious from the comments above that technical education at the Technical College level lacks funding.

#### **5.3.1.5 Lack of Partnership amongst Government, Industry and Technical Colleges (TCs)**

Two amongst the four participants responded to the lack of partnership between government, industry and TCs, the emphasis was on lack of support from government and industry towards TCs. This they justified in their comments below:

*P1: “...we went to Lagos, and we saw many things that are happening... went to a Technical College called Ogedemgbe, when we were taken to one of the workshops, the workshop was established by a company in that environment Samsung to be specific, and Samsung established a large workshop...performances of students improved due to the improved learning environment... companies don’t come to our Technical College again, unlike 70s and 80s... Government should consult companies for support ...”*

Similarly, participant 4 supposed:

*“... According to government policy on Technical Education that the Federal government, State government, industries and private firms will contribute towards, but in this area none....in Rivers State here, or let me be specific in GTC herein Government Technical College here, I have not seen any industry; I have not seen any private organisation coming. I have not seen Federal government interest...”*

From lines 5 and 6 in the first excerpt and lines 3-4 of the second excerpt it is obvious that no partnership exists between government, industry and TCs. In the first excerpt, the participant enumerated the gains of TCs in Lagos while lamenting on the absence of partnership contrary to the second participant.

#### **5.3.1.6 Inadequate Qualified Technical Personnel and Poor Staff Development**

Two of the four participants lamented the lack of qualified technical personnel and poor staff development. This is indicative in the comments below:

*P4: “...the unemployment of teachers for years has created a very big gap, problem to Technical Education. Like for electrical, that was for last term when Federal came, I reminded them that we are supposed to have at least 5 qualified teachers and 3.....eer workshop attendants, I was the only teacher in Electrical until last month somebody came ... as it stands even though these materials are produced today, if more teachers of Technical and Vocational Education are not employed, the aim is still defeated; because one teacher alone cannot be*

*teaching the theoretical aspect of it in the whole classes and also teaches the practical... ”*

On the training of teachers, Participant 1 alleges that:

*“.... if the training is given to teachers, update their ...eer experience, it is the same that they will bring; because if a teacher is trained, he will not come back and sit down idle. He will try imparting the knowledge to the students because he has acquired new knowledge ....you see now teachers are always sent for training to update themselves so that they can now come and train the students, now when the training of the teachers are not looked into, how would you every day teach the same thing, no update”*

In the first excerpt above, it can be seen in lines 1-5 that there is a shortage of technical personnel (teaching and non-teaching), while lines 7-8 shows lack of qualified technical personnel. In the second excerpt, it is indicative in lines 1-3, 5 and 7 that there is lack of staff development with regard to teachers training.

### **5.3.2 Technical College Graduates**

However, there were other issues raised by Technical College graduates as negative experiences that impeded their skills acquisition. These are namely: limited curriculum due to lack of alignment between curriculum and industrial needs; lack of adequately trained manpower; lack of functional and modern equipment; lack of training materials for workshop practical; and lack of funds. These are evident in the comments below:

#### **5.3.2.1 Limited curriculum**

Limited curriculum in this context means lack of the Technical College curriculum to align with the needs of the industry. Responding to this, one of the four participants lent his voice negatively to this. This is indicative in the excerpt shown below:

*P1: “... There were limitations on the way the courses were arranged and where we are to study and stop, Ok like the skills acquired in our various fields it has*

*limitation whereby you are limited can go out and basic knowledge that you can just acquire and feed for yourself for a while but other industrial skills that are high in grade and level were not given to us”*

From the excerpt above as stated by Participant 1, one could deduce from lines 1-5 that his experience of the GTC programme preparation was negative with regard to a limited curriculum. From his comment is evident that the curriculum is not aligned to the needs of industry.

### **5.3.2.2 Lack of adequately trained personnel**

In response to adequately trained personnel, one among the four participants shared his view on that as highlighted in the excerpt below:

*P3: “.... we never had enough manpower because those days the Nigerian system of education was more or less arts in nature... few teachers were graduates of even the same Technical College because there were no graduates from the universities that were able to teach the courses adequately ... I mean they (teachers) too were involved in this industrial training and they were also opportune to go to the roadside artisan shops to still teach themselves, involve in practical, but the practical was not back very well with theoretical knowledge because we don't have grounded vocational technical teachers ...”*

Line one of Participant 3's comment indicates a negative experience in relation to having adequately trained manpower. From the excerpt it is seen that the number of manpower was inadequate, besides lines 4-8 shows that the teachers they had then were not properly trained (lacked practical and theoretical knowledge).

### **5.3.2.3 Lack of functional modern equipment**

Two among the four participants responded to functional modern equipment; this they made known in their comments:

*P3: “.... then we never had good equipment, the ones we had were almost obsolete ...”*

The second participant said:

*P4: “... I saw the machines materials used for helping ourselves as students as things that were all worn out, in the sense that we were not making appropriate use of them, when you got to those machines they will assist you less than what you expected, and my stay as a student for a period of three years till I left those machines were still there not changed ... government should look into Government Technical College ... upgrade the facilities that are meant for upgrading, those facilities should be upgraded so that the students would be up to date and learn with modern facilities equipment...”*

Participant 3 in the first line of his comment made it clear that his experience was negative in the sense that the Technical College never had good equipment, besides the only ones they had were obsolete. Likewise, Participant 4 commented in lines 1-3 that his own experience was also negative with regard to functional equipment. Both participants had negative experiences of the GTC programme preparation. However, in lines 4-7 of Participant 4’s comment it is seen that for the period he was in Technical College there was no trace of government’s intervention in terms of upgrading the equipment to a modern one.

#### **5.3.2.4 Lack of training materials**

One in four of the participants responded to this as shown in the excerpt below:

*P3: “...we were managing what I will call alternative materials or tools to enhance our training...)”*

The comment above shows a negative experience of Participant 3 in relation to the provision of training materials for the training of Technical College graduates as clearly stated in the excerpt.

#### **5.3.2.5 Lack of funds**

From the literature it is evident that the funding of Technical College programmes lies within the jurisdiction of the government. Among the four participants, one



acknowledged this in his his point of view on funding Technical College programmes. This was revealed in his comment:

*P4: “.... with this as an experience GTC lack funding ... government should look into Government Technical College by putting fund into it ...”*

From both lines of the excerpt above, it is seen that Participant 4’s experience was negative with regard to funding of Technical College programmes. This shows that GTC lacks funds for effective implementation of the Technical College programme.

### **5.3.3 Technical College Graduates Employers**

Employers also lamented the state of Technical Colleges’ capacity to produce adequately trained graduates as they are confronted with challenges such as: lack of government support in the provision of modern training facilities; lack of competent teachers; lack of curriculum alignment due to absence of cooperate partnership in curriculum design process; theoretically dominated curriculum; and review of out-dated curriculum. These they made known in the comments below.

#### **5.3.3.1 Lack of Training Facilities and Modern Equipment**

Two among four participants stressed on lack of training facilities and modern equipment in Technical Colleges as shown in the comment below:

*P2: “.... what I want to say is that ...eh most of these Technical Colleges are not equipped with these necessary facilities....”*

Alternatively, another employer alleges that:

*P4: “.... I think the government really need to ensure that people get the modern technology from the institution not from the industry, because most people come to the industry and begin to learn what they should have learnt in the institution either because the equipment in the institution is obsolete and government is not always updating them they use the obsolete to teach you the basics but when*

*you now come out you see modern CNC machines ... you see something different, but it's still part of the curriculum”*

From both excerpts above, it is seen in lines 1 and 2 of the first excerpt and lines 2-5 of the second excerpt that Technical Colleges lack training facilities and modern equipment.

### **5.3.3.2 Lack of competent teachers**

Two among the four participants emphasised on lack of competent teachers as is evident in the comment below:

*P2: “.... I came to realise that most of our teachers will I say not competent enough, ... A teacher that would not be able to identify something he has mentioned, so how will the student do that? .... so majority of our teachers are theoretical teachers that is why end up giving us theoretical technicians”*

Similarly, another participant said;

*P3: “.... we need to employ more competent teachers ... ”*

From the excerpts above, it is seen in lines 1-4 and 1 of Participant 2 and 3 respectively that there is a lack of competent teachers. Participant 2 attributed lack of qualified technicians to a lack of competent teachers. This finding confirms the findings of Osami (2013) who argues that one of the challenges confronting the success of technical education in River State is the engagement of teachers with inadequate practical experience.

### **5.3.3.3 Lack of Curriculum Alignment Due to Absence of Partnership in Curriculum Design Process**

Two Participants stressed the lack of alignment between the Technical College curriculum and industrial demand. This is shown in the comment below:

P1: *“...what they have done in Technical College might have a bit of eer....eer difference from what is obtainable on the field, the machines they may be introduced to in the Technical College might be different with the machines that are obtainable on the field, and so they need additional training to bring them to terms to what is obtainable on the field... we kind of discover that most of the time those that carry out, or those that put together this curriculum don't come to the field to liaise with the professionals on ground, because for you to be able to train technical students you should know what is obtainable on the field”*

Another employer remarked that:

P4: *“.... we need to look inward and really see how they're effectively implemented and also see how to upgrade the universities to be in line with what the industry need... I think in Nigeria, the curriculum that was used to train even myself as an employer, I don't think my own father had an input in it; he was prepared before us, the present Nigeria curriculum in education.... I don't think that public opinion is actually all the time being validated .... there is need for the employers to make input that's really how I think curriculum is supposed to be formulated for any nation, curriculum is supposed to mirror the society,*

There is a clear indication from both excerpts above that the Technical College curriculum is not aligned with industrial requirements due to lack of a cooperative partnership in the curriculum design process. This is obvious in lines 1-3, 4-6 of the first excerpt and 1-2, 3-8 of the second excerpt respectively. This finding is maintained by Berhe (2011) who contends that lack of curriculum alignment is due to lack of communication between training institutions and potential users of graduates.

#### **5.3.3.4 Theoretically Dominated Curriculum**

Two participants foreground lack of detailed practical aspect of the curriculum, this is obvious in the comments below:

P1: *“... Most a time we discover that the practical aspect is not detailed... ”*

In furtherance of that, another participant said:

*P2: “.... sometimes what they produce is theoretical technicians, there is need for practical, practical need to be carried out ...*

From line 1, and the two lines of the excerpts above, it is seen that the approach towards teaching the practical content of TC curriculum is not balanced, the theoretical aspect is given more attention than the practical. This has resulted in the production of theoretical graduates as clearly stated in the second excerpt. This finding collaborates with the findings of Fu and Tu (2013); in their study, it was discovered that, from employers’ perspective, TVET training is too theoretical and this has led to the production of graduates who lack the competence to deal with modern technology. In the same view, Dike (2009) lamented that the inability of the Nigerian school system to meet with national developmental needs of the country is associated too much emphasis being placed on the theory aspect of the curriculum compared to practical; this most times leads to students’ exposure to theory rather than practical.

### **5.3.3.5 Review of Out-Dated Curriculum**

Two participants responded to the review of the curriculum in line with modern technological development.

*P3: “.... actually I will say the school curriculum they actually need to still review it, because we can see that everyday new things ... discovering new things so actually we say let’s continue working with the old curriculum it might not be right... ”*

On the other hand, another participant said:

*P4: “.....some of the curriculum is as old as more than 20 years, 30 years ago and the curriculum may not specify what machines that are now invoke today in the industries ... so I don’t think the curriculum also checks what is used in this institution and what is used in other institution they just say people should learn how to use lathe they don’t specify what kind of lathe, is it the 2000 model machine or the 195something or 197something machine ... curriculum may*

*have changed, the Technical College I went I'm still seeing old and obsolete machine, but in the industries I have visited today, I see new modern machines, no longer any one that is as old as the ones I have seen, so I wonder if we don't want to upgrade to the modern days how effective this curriculum will really deliver what it is meant to be ... ”*

From the excerpts above, it is seen in lines 1-3 of the first comment, and lines 6-10 of the second excerpt that there is a need to review the curriculum in line with recent technologies. While the first excerpt states that the curriculum should be reviewed with recent discoveries, the second excerpt commented that not only should the curriculum be reviewed, Technical College equipment should also be upgraded in line with such reviews.

#### **5.4 SUMMARY OF FINDINGS WITH RESPECT TO RESEARCH QUESTION ONE**

Presented in this chapter is the analysis of the responses from the following stakeholders: policy documents; Technical College teachers; Technical College graduates and Industry employers with regard to skills required by Technical College graduates to be employed in the industry. This analysis aimed at answering Research Question One. In the following section, a summary of the findings of this first research question is provided through a table (see Table 5.5 below) followed by brief narrative summaries of the findings based on the responses of each stakeholder (see Sections 5.4.1 - 5.4.4).

Table 5.5 provides a summary of the findings from policy documents, teachers, graduates and employers on sets of skills required by Technical College graduates for their employability.

**Table 5.5: Summary of employability skills as defined by different stakeholders**

<b>Question 1. What are the set of skills graduates from Technical Colleges need for employability as;</b>				
	<b>A</b>	<b>B</b>		<b>C</b>
<b>Sub-questions</b> →	Recommended by the Nigeria National Policy on Education (NPE) 2004 and the Senior Secondary Technical Colleges Curriculum (SSEC) 2008?	Perceived by staff (teachers) and graduates from Technical Colleges?		Required by employers of Technical College graduates?
<b>DATA GENERATED FROM A, B AND C</b>				
<b>Data Source</b> →	↓ Policy Document NPE 2004 & SSEC 2007	↓ Teachers	↓ Graduates	↓ Employers
<b>Instrument</b> →	(Document analysis)	(Focus Group)	(Focus Group)	(Focus Group)
<b>Data Source</b> →	<ul style="list-style-type: none"> <li>• TVET policy Documents for Technical Colleges</li> </ul>	Teachers from the following disciplines: <ul style="list-style-type: none"> <li>• Mechanical</li> <li>• Building</li> <li>• Electrical</li> </ul>	Graduates from the following trades: <ul style="list-style-type: none"> <li>• Mechanical</li> <li>• Building</li> <li>• Electrical</li> </ul>	Employers from the following industries: <ul style="list-style-type: none"> <li>• Automobile Services</li> <li>• Local Gov't council</li> <li>• Engineering Services</li> <li>• Transport Services</li> </ul>
<b>Technical skills</b> →	Trade related skills in: <ul style="list-style-type: none"> <li>• Mechanical</li> <li>• Computer</li> <li>• Electrical engineering</li> <li>• Building</li> <li>• Wood</li> <li>• Hospitality</li> <li>• Textile</li> <li>• Printing</li> <li>• Beauty culture</li> <li>• Business</li> </ul> Others (leather goods manufacture including shoe making and repairs)	Trade related skills in: <ul style="list-style-type: none"> <li>• Mechanical;</li> <li>• Building</li> <li>• Electrical;</li> <li>• Maintenance;</li> </ul>	Trade related skills in: <ul style="list-style-type: none"> <li>• Mechanical</li> <li>○ Drilling</li> <li>○ Shaping</li> <li>○ Machining</li> <li>○ Forging</li> <li>○ Turning</li> <li>○ Welding</li> <li>○ Use of hand tools</li> <li>• Building</li> <li>○ Skills in the use of building construction machines and hand tools in Concrete work</li> <li>• Electrical</li> <li>○ Electrical installation and maintenance;</li> <li>○ Appliances repairs.</li> </ul>	Skills in: <ul style="list-style-type: none"> <li>• Mechanical;</li> <li>• Electrical;</li> <li>• Welding (Mechanical)</li> <li>• Civil (Building)</li> <li>• Fire fighting (Safety)</li> <li>• Safety</li> </ul>
	<b>Soft skills</b> →	<ul style="list-style-type: none"> <li>• Self-reliance/ Entrepreneurial skills;</li> <li>• Communication skills;</li> </ul>	<ul style="list-style-type: none"> <li>• Self-reliance/ Entrepreneurial skills;</li> <li>• Writing skills;</li> <li>• Reading skills;</li> </ul>	<ul style="list-style-type: none"> <li>• Self-reliance/ Entrepreneurial skills;</li> </ul>

- 
- |  |   |  |
|--|---|--|
| <ul style="list-style-type: none"> <li>• Listening;</li> <li>• Reading and writing skills;</li> <li>• Scientific Decision, and creativity skills;</li> <li>• Mathematical literacy skills;</li> <li>• Capital market skills</li> <li>• Visual communication of ideas in construction and production industries through ICT (technical drawing)</li> <li>• Interpersonal and Human relations</li> <li>• Personal responsibility skills</li> <li>• Analytical thinking.</li> </ul> | <ul style="list-style-type: none"> <li>• Communication skills;</li> <li>• Mathematical skills;</li> <li>• Problem-solving skills</li> <li>• Thinking skills.</li> </ul> | <ul style="list-style-type: none"> <li>• Innovative/creativity skills;</li> <li>• Quick adaptation;</li> <li>• Ability to work with less supervision</li> <li>• Ability to acquire skill</li> <li>• Teamwork;</li> <li>• Willingness to learn</li> <li>• Mathematical literacy skills</li> <li>• Technical drawing interpretation</li> </ul> |
|--|---|--|
- 

#### **5.4.1 Summary on the findings about the employability skills required from Technical College graduates as recommended by the two policy documents**

From the two policy documents analysed; namely, the Nigeria National Policy on Education 2004 and the Senior Secondary Education Curriculum 2008, it was found that both policies recommend technical and soft skills (also known as basic skills) for the employability of Technical College graduates. In addition, the trade related skills recommended by both policies are the same. These skills are mechanical, electrical and building. However, a disparity in the kind of basic skills foregrounded by each policy, was noted. Whilst, the NPE only embraced the following three basic skills: self-reliance, entrepreneurial and computer literacy, the SSEC covered a wide range of basic skills. These ranged from basic communication, listening, reading and writing; scientific and creativity, entrepreneurial, visual communication of ideas in construction and production industries through ICT, mathematical literacy, capital market, interpersonal and human relations, decision-making skills to personal responsibility. The disparity was due to the fact that the NPE 2004 is the comprehensive education policy while the SSEC 2008 is the curriculum document for Secondary Technical Colleges and Colleges. So the policy only outlined the areas to be captured in the broader curriculum.

#### **5.4.2 Summary of the findings of Technical College teachers' perceptions of the employability skills required from Technical College graduates**

The findings in relation to the teachers' perceptions of the kind of employability skills required in Technical College graduates, the following four technical skills were highlighted: mechanical, electrical, building and maintenance. However, for basic skills, the following seven skills were foregrounded: self-reliance/ entrepreneurial, writing, reading, communication, mathematical, thinking and problem-solving. It is significant to note that the additional skills foregrounded by the Technical College teachers, namely, maintenance and problem-solving are not included in any of the two policy documents analysed.

Teachers highlighted the following factors as hindrances to the curriculum enactment for effective skills development, these includes lack of training facilities, building infrastructure and modern equipment; overcrowded classroom; and poor administration of technical education due to absence of qualified personnel. Others include; lack of funds, lack of partnership amongst government, industry and Technical Colleges, and inadequate qualified technical personnel and poor staff development.

#### **5.4.3 Summary of the findings of the Technical College graduates' perceptions of the employability skills required from Technical College graduates**

It is significant to note the limited awareness from graduates of the skills required from Technical College graduates for employability. According to the analysis, the graduates have the awareness that the skills required for employment are only trade related skills in mechanical, building and electrical. The only basic skill they seem to be conscious of is self-reliance/entrepreneurship. However, this skill alone cannot guarantee them employment in the industry. Therefore, their conception heavily limits their opportunity and possibilities of securing employment after the programme.

According to the findings from Technical College graduates, the following were the negative experiences that inhibited their acquisition of the necessary employability skills: lack of alignment between curriculum and industrial needs; lack of adequately trained manpower; lack of functional and modern equipment; lack of training materials for workshop practical; and lack of funds.



#### **5.4.4 Summary of the findings of the Industry employers' perceptions of the employability skills required from Technical College graduates**

Findings from employers' perspective showcased technical and basic skills. Technical skills include mechanical, electrical, building, safety and fire-fighting. The basic skills consists of administrative, public relation, interpersonal, communication, reading, innovative/creativity, quick adaptation, ability to work with less supervision, ability to acquire skill, teamwork, willingness to learn; basic technical drawing interpretation and mathematical literacy. It is significant to note that the additional skills foregrounded by the Employers from Industry, namely, fire-fighting and basic safety skills (with respect to technical skills) and administrative, quick adaptation, ability to acquire skills, willingness to learn and teamwork (with respect to soft-skills) are nowhere to be found in the two policy documents analysed.

Findings from employers also highlighted some factors that limit the capacity of Technical Colleges to produce competent skilled graduates such as: lack of provision of modern training facilities; lack of competent teachers; lack of curriculum alignment due to absence of cooperate partnership in curriculum design process; theoretically dominated curriculum; and review of out-dated curriculum.

As mentioned earlier on in the chapter, these disparities and discrepancies will be fully explored in Chapter 6 as we address the Research Question Two which explores the type and the nature of interfaces that emerged from the data.

### **5.5 CONCLUSION**

This chapter sought to present the analysis of the responses from the four stakeholders who participated in this study: policy documents; Technical College teachers; Technical College graduates and Industry employers with regard to skills required by Technical College graduates to be employed in the industry. Evident in the analysis is that although there seems to be commonalities in the skills required for Technical College graduates, there seems to be major mismatches, which illuminate a misalignment between policy, teachers and graduates and industry. This finding has serious implications for all the stakeholders concerned. For example, graduating students with the relevant skills required by employers does not only mean to review the curricula policy and academic programmes to align with industry, but also demands the provision

of training facilities, equipment, infrastructure, qualified technical personnel and proper administration of TVET programmes. Therefore, to achieve the main objective of the Technical College programme, which centres on education for employability, there is a need to shift from the supply-driven approach to a demand-driven approach. This implies that the planning of Technical College programmes mustn't be left in the hands of the government, but must be a harnessed collaborative effort from all stakeholders involved: the Technical College teachers, the industry employers and government (with its policies). The demand for qualified and skill oriented graduates is on the increase in a global economy. Producing graduates with the necessary skills, which are relevant to the need of the industry is a source of major concern to most educational institutions, including mine.

In the next chapter, I juxtapose these interfaces (that is matches and mismatches) in the skills required and expected from Technical College graduates as drawn from the analysis presented in this chapter to address the second research question. The aim is to explore the type of interfaces that exists in order to better understand their nature.

## **CHAPTER 6**

### **ANALYSIS OF RESEARCH QUESTION TWO**

In this chapter, the exploration of the analysis on the existence of interfaces as well as their nature, in the employability skills expected from Technical graduate as defined by the four stakeholders, is accomplished with regard to the two following categories and their nature:

- (i) Technical Skills
- (ii) Soft Skills

As mentioned earlier in chapters one and four, the interface according to Singh-Pillay (2010) arises out of the points of convergence and divergence amongst the different stakeholders' requirements in respect of skills development. It is this understanding that is applied in this study. The concept of an interface is construed as a meeting point (convergence) or a point of deviation (divergence) amongst stakeholders with regard to the phenomenon explored.

In this regard, the chapter is divided into 3 parts. In the presentation of the analysis, I first discuss the interfaces that emerged, with respect to technical skills. Second, the same structure is followed in highlighting the interfaces that emerged with respect to, soft skills. Third, I present a cross interface analysis to bring to bear the nature of these interfaces in terms of both technical and soft skills. In conclusion, I provide a précis to conclude the chapter.

#### **6.1 RESEARCH QUESTION TWO: INTERFACES AND THEIR NATURE**

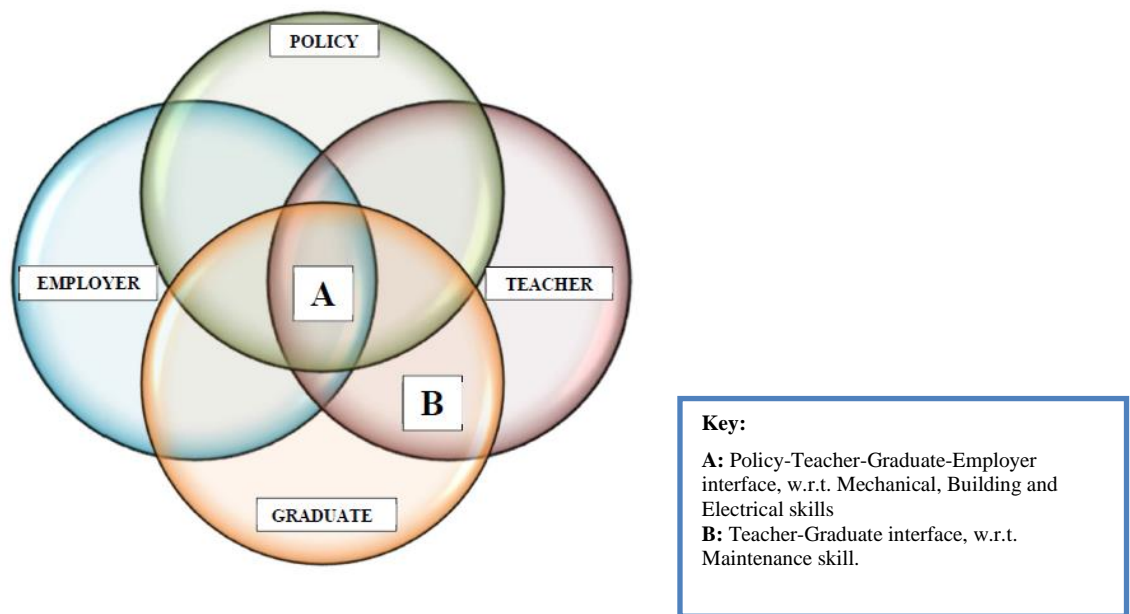
##### **6.1.1 Analysis of the Technical Skills Interface**

To address the Research Question Two, data collected from policy documents, teachers, graduates and employers in Research Question One were juxtaposed in order to establish whether an interface existed in respect of the employability skills expected from Technical College graduates across the four stakeholders. Table 5 in Chapter 5 is once again employed in this chapter to illuminate the answers to this research question.

My presentation will begin with the analysis of technical skills interface, followed by the analysis of soft skills interface.

The analysis, as shown in Table 5, does indeed confirm the existence of interfaces amongst the different stakeholders with regard to technical skills required from Technical College graduates. The following two types of interfaces are brought to the fore and represented in Figure 6:

- Policy-Teacher-Graduate-Employer; and,
- Teacher-Graduate.



**Figure 6: Technical skills interface**

#### **6.1.1.1 The Policy-Teacher-Graduate-Employer Interface**

It is significant to note that the Policy-Teacher-Graduate-Employer interface cuts across all four stakeholders. In other words, all four stakeholders cohere regarding the type of employability skills required in Technical College graduates as it relates to the following trades: mechanical, building (civil) and electrical trade skills. This resembles a convergence, an alignment, regarding the type of technical skills required as agreed upon by all four stakeholders who took part in the study.

### 6.1.1.2 The Teacher-Graduate Interface

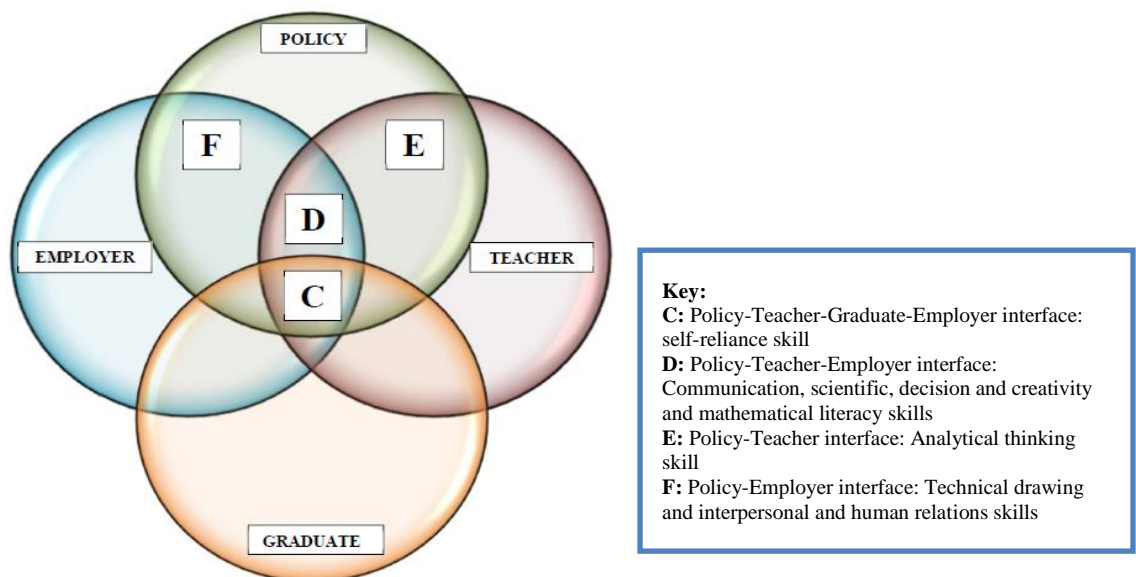
The second interface that emerged from the data pertains to only two of the four stakeholders; teachers and graduates. It is the Teacher-Graduate interface. It is a convergence that points to an understanding of the crucial need for the inclusion of maintenance skills in every Technical College graduate programme. However, it is worth noting the variation within this understanding. The teachers and the graduates have different ideas attached to the concept of maintenance skills. These differences will be further interrogated in section 6.2.3 when I discuss the nature of this interface.

### 6.1.2 Analysis of the Soft Skills Interface

With regard to the analysis of the interface that exists in the kind of soft-skills that are required for employability of Technical College graduates, the following four interfaces were brought to the fore:

- Policy-Teacher-Graduate-Employer
- Policy-Teacher-Employer
- Policy-Teacher
- Policy-Employer

The above four interfaces are represented in Figure 7.



**Figure 7: Soft skills interface**

### **6.1.2.1 The Policy-Teacher-Graduate-Employer Interface**

It is significant to note that, as in section 6.2.1.1 above, we have yet another Policy-Teacher-Graduate-Employer interface that cuts across all four stakeholders, with respect to soft skills. This convergence or alignment points to the skill of “self-reliance”. Whilst there is an undoubtedly interesting focus amongst all the stakeholders on the skill of self-reliance, they all, however, have different connotations attached to this skill. These variations will be further cross-examined in the analysis of the nature of interfaces in section 6.2.3.

### **6.1.2.2 The Policy-Teacher-Employer Interface**

With regard to the Policy-Teacher-Employer interface; three points of convergences emerged, namely; communication; problem-solving as well as mathematical literacy skills. Once again, different hues mark the perceptions amongst the stakeholders about the skills required from Technical College Graduates. These variations will be unpacked in the section that discusses the nature of interface.

### **6.1.2.3 The Policy-Teacher Interface**

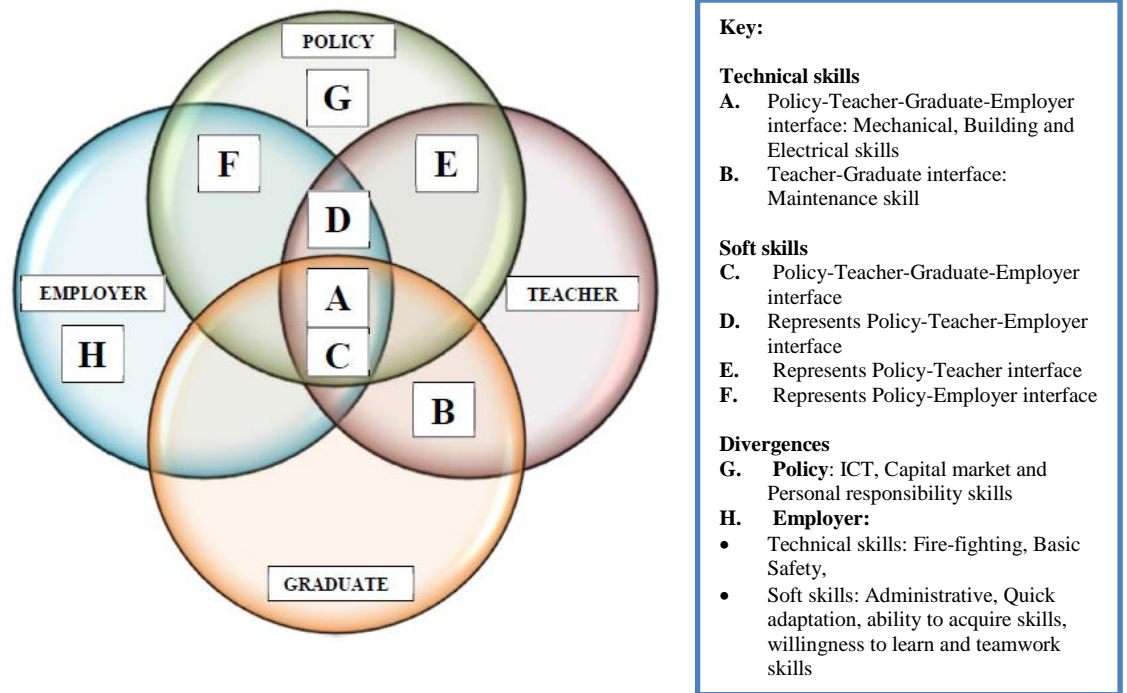
It was interesting to note that this interface focussed on analytical thinking skills. As with the other interfaces discussed above, a variation in the conceptualisation of this skill was observed. Again, these variations in conceptualization will be further elaborated upon in section 6.2.3.

### **The Policy-Employer Interface**

The Policy-Employer interface highlighted an alignment in the following two skills: technical drawing and interpersonal / human relations skills. Both the policy and employers think about technical drawing and interpersonal/human relation skills differently. These differences will be examined in section 6.2.3 below.

### 6.1.3 Analysis of the nature of the interfaces

The analysis of the nature of the interface was generated from cross level analyses of the above mentioned interfaces amongst all stakeholders in terms of the skills graduates from Technical Colleges need to possess for employability. Figure 8 shows this cross level analysis of the interfaces that emerged in terms of technical and soft skills. In the analysis, I examined both the points of convergences and divergences in how the stakeholders deemed as the skills necessary for employability of Technical College graduates. For the points of convergences, interesting variations were noted. These variations shall be discussed in the following sections with regard to, technical skills, followed by soft skills.



**Figure 8: Nature of interface for points of convergence**

### **6.1.3.1 Analysis of the nature of the interface of technical skills**

#### **6.1.3.1.1 The Nature of the Policy-Teacher-Graduate-Employer interface**

There seems to be a 100% alignment in the convergence in the Policy-Teacher-Graduate-Employer interface, with respect to the trade skills expected from Technical College graduates. In this regard, no variation in the interface was observed. This alignment amongst all the four stakeholders is a critical finding in that it signifies that all four stakeholders emphasise the value of the trade related skills.

#### **6.1.3.1.1 The Nature of the Teacher-Graduate interface**

The Teacher-Graduate interface drew our attention to a convergence on the perceived importance of the skill of maintenance. However, how both the stakeholders perceived this skill and its value, varied. The Technical College graduates saw this skill as a skill that should be included in programmes related to Electrical Engineering and Installation, as expressed in the excerpt below:

*“I studied electrical / electronics ...these are things you acquire as skills ...electrifications, distribution of power supplies, installation, maintenance of power plant, generators, minor repairs of electrical appliances...”*

On the contrary, the Technical College teachers argued for the inclusion of Maintenance as a discrete subject within the whole Engineering programme.

*“...maintenance skill should be inculcated into the curriculum ... as the curriculum does not cover it”*

*“....Students should read that subject area (maintenance skills)”*

### **6.1.3.2 Analysis of the nature of the interface of soft skills**

#### **6.1.3.2.1 The Nature of the Policy-Teacher-Graduate-Employer Interface**

As mentioned in Section 6.2.2.1, a convergence was observed across all four stakeholders in respect of the self-reliance skill. It is clear that although all four



stakeholders attach the concept to “independence” and “job creation”; there are however variations that add interesting nuance to the meanings attached by each stakeholder to the term “self-reliance”. According to the two policies interrogated, the National Policy on Education 2004 and the Senior Secondary Education Curriculum 2008; self-reliance is not only with personal responsibility, but with economic development and job creation, whilst for teachers’ self-reliance is the ability of the graduate to be sufficiently independent in his field to employ others. This is indicative in the excerpt below:

*“ ... Some ...also establish on their own and they are doing well, they employ more people to gain experience and the self-employed (self-reliant) they have done a lot. They even produce a lot of things that they even go on their own to experience, that’s the relevance ... ”*

The graduates see being self-reliant as the development of relevant skills as well as attitudes, behaviours and values required for their sustained survival, both at an individual and community level as shown in the excerpt below:

*“... at least based on ... what we need to go into the society and stand as self-employed ... readiness to acquire more skills in the wider society to actually meet up the challenges of unemployment ... sustain my life, I still even teach people (Omoku-Community) how to sustain their lives”*

This means for the graduates, sustained self-reliance needs to go beyond the individual. It should incorporate their communities (*the wider society to actually...*), their citizenship responsibility (*...meet up the challenges of unemployment*) by being part of a force that aims at curbing social exclusion which is sometimes brought about by unemployment. In other words, self-reliance should incorporate **innovation**: the ability to turn their ideas or visions into actions that will benefit the entire community.

For the employers self-reliance is construed as the ability to cope, to adapt, adjust and survive in the world of work with little or no dependency on the company for “re-skilling or up skilling” (ability to work with less supervision). This is evident from employer’s views from the excerpt shown below:

*“..... in the industry sometime there about twenty technicians and we have a foreman.... if work pressure arises for a particular day, meaning the foreman will have to make an assignment, he will assign to each technician where he or she should be carrying out a particular job, so it is left for that technician to be able to carry out his work effectively (without much supervision) so that the foreman will have no much work for him to start making some correction”*

In a way, the employers want their employees to be innovative and develop coping mechanisms to deal with their jobs. In other words, this means the employers prefer employees who do not require “babysitting” in their jobs. They require employees who can “think out of the box” as reflected in the excerpt below:

*“....in course of carrying out the road project, the project runs into the rainy season and they discover there are points along this road that needs culverts which were not specified in the original contract; now if you are the one on the field, you know very well if you run this road across and go without putting a culvert thereby ... it's going to collapse, water will erode it out. Most a time we see people go and do that they just go there ....ah it's not their concern ... all you need to do is to create a culvert (self-reliant), even if it was not specified in the job ... because you want to give the council the credit they need. The community will be expecting council to be doing a project ... they want to see it good and long-lasting. So you on the field must have the innovative skill to know ...okay I must have to put a culvert here, though it was not specified in my job, but there has to be a culvert here and you know how to go about it in order to stop or forestall any destruction that will take place”*

*“ ... innovation (innovative skill) has to do with ....specifications or standards that have been ... laid down or this things must to be done like this,...Not every situation will conform with this principles; now there are situations that may arise that you have to make some changes, now if you don't have the innovative skill, ... you're going to be hindering the work, maybe this work has been slated to be finished at a specific time; and secondly, you're going to be hindering the project, thirdly because of your lack of innovative skill you might not be able to finish this work at this particular time and give the council the credit they're supposed to get. So we very much need technical students who*

*have innovative skills who can create something out of nothing if the situation arises”*

For the employers, self-reliance is closely linked with the ability to think innovatively with any particular situation that may arise in the course of a normal day’s work. In other words, it includes the ability to find solutions without supervision from the foreman or supervisor to problems that may arise.

It is clear from the above excerpts that both the graduates and the employers see innovation as a key ingredient in creating and sustaining employment, within their respective contexts. For the graduates the society at large is their context. And, for the employers, the company at large is their context.

From the excerpt above, it is evident that the teachers have identified a gap in the Technical College curriculum, namely, the non-existence of a strong focus on maintenance as a necessary skill for Technical graduates in the curriculum. They thus call for the introduction of a new subject, called Maintenance, to be incorporated in the Technical College curriculum.

#### **6.1.3.2.2 The Nature of Policy-Teacher-Employer Interface**

The variation among the three points of convergence that emerged, namely; communication; problem-solving and mathematical literacy skills, was marked by interesting hues.

Communication skills were deemed to be one of the key requisites for the employability of Technical College graduates. All three stakeholders foregrounded reading and writing skills. The additional skills that were foregrounded in the two policies included listening skills.

The ability to solve problems is seen by Technical College teachers as a significant attribute in that it grants technical graduates proficiency in their various areas of specialisation. In other words, problem-solving skills are seen as key in that they provide a sustainable base for graduates to showcase their technical skills as seen in the excerpt below:

*“... is true when the person has that problem-solving skill, he can use the knowledge of the scientific aspect, er... both theoretically and practically to*

*diagnose faults working ... the problem-solving skills will er ... help the graduate to be more specialised in his area of specialisation that he will be a problem solver. There is no fault if he is well trained in that area, there's no amount, or no fault per say that he will not be able to contribute... when you bring your problem the person knows where to go if he is sound he knows the panel to touch. But those who don't have this skill of tracing this problem will only touch and destroy things"*

Problem-solving in the policies is broadly perceived to incorporate scientific, decision-making and creativity skills (SDCS). From a policy perspective, these are regarded as requisite skills required from Technical College graduates.

From the perspective of Industry employers, the type of problem-solving skills expected from technical graduates should speak to innovation, as emphasised in the excerpt below:

*" ... innovation (innovative skill) has to do with ....specifications or standards that have been ... laid down or this things must to be done like this, ...Not every situation will conform with this principles; now there are situations that may arise that you have to make some changes, now if you don't have the innovative skill, ... you're going to be hindering the work, maybe this work has been slated to be finished at a specific time; and secondly, you're going to be hindering the project, thirdly because of your lack of innovative skill you might not be able to finish this work at this particular time and give the council the credit they're supposed to get. So we very much need technical students who have innovative skills who can create something out of nothing if the situation arises"*

In other words, the type of problem-solving skills that Technical College graduates need to acquire should enable them to be innovative, namely, "to create something out of nothing when the need arises" as stated in the excerpt above. In other words, to the employers, graduates must have common soft skills over and above their specific occupational skills. This means to be seen as employable, graduates must not only show a capability of applying their practical and theoretical learning in their own specialization, but need to also show the abilities to deal with change, to learn from

experience, to think critically, act autonomously while keeping production at its optimal levels.

With regard to mathematical literacy skills, all three stakeholders underscore the importance of being savvy with numbers. In other words, the Technical College graduates should demonstrate the ability to make simple calculations or the ability to identify/understand numerical values. This is obvious in the excerpts below:

*“...it now amount to N1.5million and you’re telling the person 900 based on what you have calculated, but the figures you give put together is 1.5million. If you don’t have that communication of... mathematics then it is also...bad because you cannot be able to sum all the things you want the company to buy... So that calculating aspect is needed”*

The employers allege:

*“....They should be able to identify figures, if you say 25, the person should be able to know the difference between 25 and 20... they should understand numerical value”*

From the above excerpts, it can be gleaned that the development of mathematical literacy skills, as indicative of one’s ability to deal with numbers and simple calculations in context, in Technical College graduates is a highly valued attribute.

#### **6.1.3.2.3 The Nature of the Policy-Teacher Interface**

The policy-teacher interface holds its common boundary at the analytical thinking skill. The Technical College teachers’ perceptions of analytical skills are closely linked to the technical graduates’ ability to solve problems. In this regard, they consider analytical thinking to be the capacity to develop intellectual ability to solve problems.

#### **6.1.3.2.4 The Nature of the Policy-Employer Interface**

The Policy-Employer interface, with respect to soft skills, brought to bear two convergences: Technical Drawing and Interpersonal and Human Relations skills. There

is an interesting variation in how these skills are interpreted by the two stakeholders involved. The policy interprets technical drawing skills in the following two ways:

- An understanding of the theoretical and applied concepts relating to the use of ICT to facilitate visual communication of ideas in the construction and production industry;
- The ability to stimulate, develop and enhance entrepreneurship skills in the diverse areas of Drawing Studio Practice.

However, employers consider the ability to interpret basic technical drawings as a key requirement among Technical College graduates.

With regard to the second convergence: interpersonal and human relation skills, the policies' focus is on the development of moral and spiritual principles in Technical College graduates. Both policies set to promote spiritual, moral and cultural values in Technical College graduates in order to prepare the graduates for citizenship in their communities and societies. Employers, on the other hand, place greater emphasis on public relations and interpersonal skills as it relates to the image of their establishment, as is evident in the excerpt below:

*“.... the public relation skill or interpersonal skill has to do with helping the employee deal with what he's going to be seeing on the field ... we have situations where you have to be working with different persons from different careers, and so you should be able to have this interpersonal skill to be able to relate with them (preserving our image) because they are coming from different backgrounds...”*

From the excerpt above, it is obvious that employers do not think of interpersonal and human relations skills in terms of moral and spiritual development for citizenship. They think of these skills in terms of public relations and interpersonal relations to preserve the image of their establishments and ensure their clients are treated well.

#### **6.1.4 Divergences**

It is significant to note that the points of divergence observed came from only two of the four stakeholders, namely, the policies (mainly, the SSEC (2008)) and the employers. These are elaborated upon in the section below.

#### **6.1.4.1 Policies**

It is significant to note that the policy divergence not only lies at the skills level, but at a policy level as well. As was pointed out in Chapter 5, section 5.2.1.2, there's a notable shift of emphasis in the two policies interrogated, with respect to the attitudes and values foregrounded. Whilst, the NPE (2004) foregrounds the promotion of moral, spiritual, physical, emotional and psychological development of all individuals and the respect for the value and dignity of the individual; the SSEC (2008) foregrounds equipping individuals with the understanding of economic principles and concepts; individuals who will specifically:

- Contribute intelligently to discourse on economic reforms and development;
- Become sensitized to take part actively in national economic development through entrepreneurship, capital market, among others.

In this regard, the policy divergence here foregrounds capital market skills. One can clearly see that the target is to attain the Millennium Development Goals (MDGs) and the critical targets of the National Economic Empowerment Development Strategies (NEEDS).

#### **6.1.4.2 Employer**

With regard to technical skills required, the employer divergence speaks to one particular technical skill, namely, basic safety skill with a particular focus on fire-fighting. With regard to the soft-skills, the following three skills were foregrounded: administrative skills, willingness to learn and acquire new skills and teamwork. These skills were highlighted (required) by employers, but are conspicuously not recommended in the policy or mentioned by the teachers or graduates.

### **6.2 DISCUSSION OF THE FINDINGS**

The analysis of Research Question Two as presented in this chapter highlighted both convergences and divergences in the type and nature of interfaces explored, with respect to the requisite skills of Technical College graduates. In the following section, I briefly outline these interfaces, followed by a table which summarises the findings. I conclude this section by briefly discussing the implications of my findings. In this last section, I

select a few issues which I elaborate upon further in my overall discussion of the findings in Chapter 6.

With regard to the technical skills required, two interfaces were observed. First, it was the *policy-teacher-graduate-employer interface*, and the convergence was on the following technical skills: mechanical, building and electrical trades. These trade skills were identified by all the stakeholders as necessary skills requirements for Technical College graduates. Second, it was the *teacher-graduate interface*; and the point of convergence was the maintenance skill. Whilst the teachers see maintenance skill as a subject area that needs to be incorporated into the whole Technical College programme, the graduates consider it as a component of a particular trade, that is electrical engineering. This, therefore, signals a variation on what both stakeholders perceive maintenance skills to be, and thus points to an interesting variation in the understanding of the phenomenon.

With regard to the soft skills required by the stakeholders amongst Technical College graduates, four interfaces were foregrounded. The first interface cut across all four stakeholders involved in the study and converged on self-reliance as a requisite skill amongst Technical College graduates. Though all stakeholders stressed self-reliance as a necessary skill that needs to be developed by Technical College graduates, there were still discrepancies on their views of what self-reliance is to each of them. The second interface was the *policy-teacher-employer interface*. It converged with variances at the following three skills: communication, problem-solving and mathematical literacy. The third interface was the *policy-teacher interface*, and it converged at analytical skills. Finally, the fourth interface was the *policy-employer interface* which converged, with variations at two skills: technical drawing and interpersonal and human relations.



**Table 6: Summary of findings on the type and nature of interfaces – convergence and divergences - on the requisite skills**

Interface	Convergence		Variations for Technical skills			Variations for Soft skills				
	Technical skills	Soft-skills	Policy	Teacher	Graduate	Employer	Policy	Teacher	Graduate	Employer
P-T-G-E	<ul style="list-style-type: none"> <li>• Mechanical</li> <li>• Building; and</li> <li>• Electrical</li> </ul>	<ul style="list-style-type: none"> <li>• Self-reliance</li> </ul>			N/A		<ul style="list-style-type: none"> <li>• Personal responsibility, economic development and job creation</li> </ul>	<ul style="list-style-type: none"> <li>• Ability of the graduate to be sufficiently independent in his field to employ others</li> </ul>	<ul style="list-style-type: none"> <li>Development of relevant skills, attitudes, behaviours and values for sustainability as individuals and at community level</li> </ul>	<ul style="list-style-type: none"> <li>The ability to cope, to adapt, adjust and survive in the world of work with little or no dependency on the company</li> </ul>
P-T-G	N/A	N/A								
P-T-E	N/A	<ul style="list-style-type: none"> <li>• Communication,</li> <li>• Problem-solving; and</li> <li>• mathematical literacy</li> </ul>			N/A		<ul style="list-style-type: none"> <li>• Listening, reading and writing</li> <li>• Scientific, decision-making and creativity skills (SDCS).</li> <li>• The ability to make simple calculations</li> </ul>	<ul style="list-style-type: none"> <li>• Reading and writing</li> <li>• Problem-solving</li> <li>• The ability to make simple calculations</li> </ul>	N/A	<ul style="list-style-type: none"> <li>• Reading and writing</li> <li>• Innovation</li> <li>• The ability to identify/understand numerical values</li> </ul>
P-G-E	N/A	N/A								
T-G-E	N/A	N/A								
T-G	<ul style="list-style-type: none"> <li>• Maintenance</li> </ul>	N/A		<ul style="list-style-type: none"> <li>• Incorporated into all trades</li> </ul>	<ul style="list-style-type: none"> <li>• In relation to Electrical trade only</li> </ul>				N/A	
T-E	N/A	N/A								
G-E	N/A	N/A								
P-T	N/A	Analytical skills			N/A		<ul style="list-style-type: none"> <li>• Analytical thinking</li> </ul>	<ul style="list-style-type: none"> <li>• The capacity to develop intellectual ability to solve problems</li> </ul>		N/A
P-E	N/A	<ul style="list-style-type: none"> <li>• Technical drawing,</li> <li>• Interpersonal and human relations</li> </ul>			N/A		<ul style="list-style-type: none"> <li>• An understanding of the theoretical and applied concepts relating to the use of ICT to facilitate visual communication of ideas in the construction and production industries; and The ability to stimulate, develop and enhance entrepreneurship skills in the diverse areas of Drawing Studio Practice</li> <li>• The development of moral and spiritual principles in Technical College graduates</li> </ul>		N/A	<ul style="list-style-type: none"> <li>• Ability to interpret basic technical drawings</li> <li>• To preserve the image of their establishments and ensure their clients are treated well</li> </ul>
Divergences										
P	N/A	Capital market								
T	N/A	N/A								
G	N/A	N/A								
E	Basic Safety: fire fighting	N/A								

From Table 6.6 it is worth noting that only two interfaces were formed for technical skills and four for soft skills. For technical skills, there were no data for eight interfaces, whilst soft skills had no data for six interfaces. Though there were convergences among stakeholders in the six interfaces formed, only two of such interfaces involved the graduates. The other four interfaces involved policy, teachers and employers, though their points of convergences are with variations. The absence of the graduate voices as stakeholders in the interfaces formed was conspicuous. This point to a skills gap in Technical College graduates in terms of soft skills requirements. However, the four interfaces formed amongst the policy, teachers and employers are with variation and signal a weak collaboration among stakeholders. The variations in the interfaces formed also point to a focus on self-reliance by all four stakeholders.

### **6.3 CONCLUSION**

This chapter presented the analyses of Research Question Two which sought to explore the type and nature of the interfaces that existed in the requisite employability skills of Technical College graduates as defined by the various stakeholders. The summary of the findings is presented in Table 6.6. As can be seen from the table and the analysis thereafter the following key issues come to the fore: absence of graduate voices, weak collaboration amongst stakeholders and a focus on self-reliance by all stakeholders. These issues are taken up in the discussion of the implications of the findings in Chapter 7 as I conclude the dissertation and point to possible future research studies in this field.

## **CHAPTER 7**

### **DISCUSSION AND RECOMMENDATIONS**

To be employable, graduates need to be capable of prioritising and goal setting, be proactive in the management of change, possess the necessary skills for self-advocacy and networking to cope with changing circumstances, be active in the maintenance of continuous learning and be capable of working within changing teams (Glover et al., 2002, p.5).

Chapters 5 and 6 presented the findings and analyses of the two research questions posed by the study. The analyses of these two research questions confirmed, firstly, that interfaces do indeed exist with respect to the requisite skills of Technical College graduates as per the perceptions of the four stakeholders involved in the study. In this regard, the analysis confirmed both points of convergence and divergence in the type and nature of the interfaces explored. A summary of the findings as well as a short discussion thereof is provided in Chapter 6, section 6.3. The weak interface formed by the stakeholders in this study resulted from the fewer ties of the skills found within the jurisdiction of policy, Technical College and industry. What such weakness foregrounds is a call for policy reform in order to address the factors that lead to the feeble interface experienced at the point of policy construction and skills development. The reason is to address the issue of skills mismatch and to make the Technical College programme responsive to the need of industry/labour market.

This chapter aims to engage the reader with the four issues raised by the findings of the study as presented in Chapter 6, section 6.4., namely:

- The divergence in how employability is constructed and construed in policy documents and how this impacts on the T-G-E interfaces – weak ties
- The focus on “self-reliance” by all four stakeholders
- The silent voice of the graduate

The discussion I wish to pursue in this chapter is what do the above issues mean or reflect in respect of employability skill requirements. In other words, what do the convergences and divergences in the type and nature of the interfaces identified mean or

reflect in terms of the phenomenon under study. In this regard, the chapter is succinctly divided into the following sections:

- Summary of findings from Research Questions One and Two
- Employability – how is constructed by the different stakeholders (stakeholders definition)
- Silent voice of the graduates – what are the implications of this? How are graduates managing, positioning and constructing themselves in relation to current and future work
- The effects of the interfaces and their implications for TVET in Nigeria, in respect of:
  - The role of Technical Colleges’ capacity to enhance employment for its graduates – as it relates to its programmes, teachers etc.

I conclude the discussion section by reflection on the use of the Triple Helix theory in making sense of the findings of this study. As I conclude the dissertation, I make a few recommendations based on the insights from this study and point to possible future research studies in this field.

## **7.1 SUMMARY OF FINDINGS FROM RESEARCH QUESTIONS ONE AND TWO**

This section presents the summary of findings for Research Question One and two. Firstly, I present the summary of findings for Research Question One followed by summary of findings for Research Question Two.

### **7.1.1 Summary of Findings from Research Question One**

#### **7.1.1.1 Summary on the findings about the employability skills required from Technical College Graduates as recommended by the 2 policy documents explored**

From the two policy documents analysed; namely, the Nigeria National Policy on Education 2004 and the Senior Secondary Education Curriculum 2008, it was found that both policies recommend technical and soft skills (also known as basic skills) for the employability of Technical College graduates. In addition, the trade related skills recommended by both policies are the same. However, a disparity in the kind of basic

skills foregrounded by each policy was noted. Whilst, the NPE only embraced the following three basic skills: self-reliance, entrepreneurial and computer literacy, the SSEC covered a wide range of basic skills. These ranged from basic communication, listening, reading and writing; scientific and creativity, entrepreneurial, visual communication of ideas in construction and production industries through ICT, mathematical literacy, capital market, interpersonal and human relations, decision-making skills to personal responsibility. The NPE 2004 is the broad national policy, whilst SSEC 2008 is the curriculum; thus the broad policy made its recommendation which was further developed in the curriculum.

#### **7.1.1.2 Summary of the findings of Technical College teachers' perceptions of the employability skills required from Technical College graduates**

The findings in relation to the teachers' perceptions of the kind of employability skills required in Technical College graduates, the following four technical skills were highlighted: mechanical, electrical, building and maintenance. However, for basic skills, the following seven skills were foregrounded: self-reliance/ entrepreneurial, writing, reading, communication, mathematical, thinking and problem-solving. It is significant to note that the additional skills foregrounded by the Technical College teachers, namely, maintenance and problem-solving are not included in any of the two policy documents analysed.

#### **7.1.1.3 Summary of the findings of the Technical College graduates' perceptions of the employability skills required from Technical College graduates**

It is significant to note the limited awareness from graduates of the skills required from Technical College graduate for employability. According to the analysis, the graduates have the awareness that the skills required for employment are only trade related skills in mechanical, building and electrical. The only basic skill they seem to be conscious of is self-reliance/entrepreneurship. However, this skill alone cannot guarantee them employment in the industry. Therefore, their conception heavily limits their opportunity and possibilities of securing employment after the programme.

#### **7.1.1.4 Summary of the findings of the Industry employers' perceptions of the employability skills required from Technical College graduates**

Findings from employers' perspective showcased technical and basic skills. Technical skills have in its components mechanical, electrical, building, safety and fire-fighting. The basic skills consists of administrative, public relation, interpersonal, communication, reading, innovative/creativity, quick adaptation, ability to work with less supervision, ability to acquire skill, teamwork, willingness to learn; basic technical drawing interpretation mathematical literacy. It is significant to note that the additional skills foregrounded by the employers from industry, namely, fire-fighting and basic safety skills (with respect to technical skills) and administrative, quick adaptation, ability to acquire skills, willingness to learn and teamwork (with respect to soft-skills) are nowhere to be found in the two policy documents analysed.

#### **7.1.2 Summary of findings from Research Question Two**

With regard to the Technical skills required, two interfaces were observed. First, it was the *policy-teacher-graduate-employer interface*, and the convergence was on the following technical skills: mechanical, building and electrical trades. These trade skills were identified by all the stakeholders as the necessary skills requirement for Technical College graduates. Second, it was the *teacher-graduate interface*; and the point of convergence was the maintenance skill. Whilst the teachers see maintenance skill as a subject area that needs to be incorporated into the whole Technical College programme, the graduates consider it as a component of a particular trade, which is electrical engineering. This, therefore, signals a variation on what both stakeholders perceive maintenance skills to be, and thus points to an interesting variation in the understanding of the phenomenon.

With regard to the Soft skills required by the stakeholders amongst Technical College graduates, four interfaces were foregrounded. The first interface cut across all four stakeholders involved in the study and converged on self-reliance as a requisite skill amongst Technical College graduate. Though all stakeholders stressed self-reliance as a necessary skill that needs to be developed by Technical College graduates, there were still discrepancies on their views of what self-reliance is to each of them. The second interface was the *policy-teacher-employer interface*. It converged with variances

at the following three skills: communication, problem-solving and mathematical literacy. The third interface was the *policy-teacher interface*, and it converged at analytical skills. Finally, the fourth interface was the *policy-employer interface* which converged, with variations at two skills: technical drawing and interpersonal and human relations.

The divergence amongst stakeholders in terms of skills required by Technical College (TC) graduates has a negative impact in TC graduates employability. Therefore, in the following section, I will discuss employability as constructed by the four stakeholders in the study.

## **7.2 THE CONSTRUCTION OF EMPLOYABILITY BY THE FOUR STAKEHOLDERS AND ITS IMPLICATIONS**

The rationale to undertake this study was captured succinctly in Chapter 1 and it was premised on the following reasons:

- The decline in enrolment rate of undergraduate
- The Inability to secure employment by graduates.
- The Unavailability of postgraduate course in the Trade fields for aspiring lecturers

So, by undertaking this study I wanted to understand the above stated reasons.

### **7.2.1 Employability as construed by Policy documents**

From both documents (NPE 2004 and SSEC 2008) analysed, the findings revealed that both technical and soft skills were recommended by both policy documents, as skills required by graduates of Technical Colleges for gainful employment. This finding is supported by UNESCO-UNIVOC (2013), the report recommends that quality TVET programme should be equipped with transferable soft and hard (technical) skills as veritable tool in preparing youths for employment. However, some of the soft skills recommended in the two documents analysed are not consistent with the industry/labour market requirements. Syed Hussain as cited in Ali, Long, Zainol and Mansor (2012) concurs that basic knowledge and specific practical skills which are basic components of technical and vocational education curriculum are not in much demand by employers.

### **7.2.2 Employability as construed by Teachers**

From the analysis of teachers' perceptions on employability skills needs of Technical College graduates in Chapter 5 of this study; it was revealed that both trade related (technical) and soft skills are needed to be actively employed. Trade related skills in building, electrical and mechanical, while the soft skills embrace writing, reading, self-reliance/entrepreneurship, communication, numerical/mathematical, problem-solving and thinking skills. The finding of this study is in agreement with Wickramasinghe and Perera (2010) who in their study noted that both technical and soft skills are necessary in the workplace. However, this study is not in agreement with Buntat, Jabor, Saud, Mansor and Mustaffa (2013) who argued that teachers of vocational institutions lacked the awareness of employability skills needs of graduates. Following the findings above, it is obvious that the teachers have the awareness of employability skills needs of these graduates but lack the skills to impart it. According to Majumdar (2011) the 21<sup>st</sup> century skills placed on student's demands a teacher who has the knowledge of imparting soft skills on TVET trainees who will thus apply same at the workplace. Nonetheless, it is worth noting, that the teachers have the knowledge that trainees of Technical Colleges require both technical and soft skills to be actively employed, but this knowledge is not recreated in these trainees. This and other factors contributed to what influenced the frail nature of interface formed in this study.

### **7.2.3 Employability as construed by Graduates**

According to Mohamed and Hamzah (2013) the basic aim of TVET is to turn-out graduates who are knowledgeable and skilful in their area of specialisation and soft skills. Drawing from the findings of this study with respect to skills required from Technical College graduates for employability, the results revealed that their emphasis was on trade related skills which are technical only. This finding agrees with Kennedy (2012) whose study on block laying and concreting graduates proved that Technical College graduates only possessed trade related skills and lack soft skills. On the other hand, this finding disagrees with the findings of Caleb and Udofia (2013) and Mohamed and Hamzah (2013) whose studies highlighted that Technical College students in electrical installation and maintenance in Akwa Ibom Nigeria and Vocational and Technical Education Institutions graduates in Malaysia possess both technical and soft



skills needed to enter the workforce. It is obvious that no employer would want to venture into recruiting an unskilled person, as every firm tries to maximise their resources. Most graduates from skills training institutions in Malaysia fail to secure employment in the industry due to lack of required employability skills and skills mismatch (Ahmad Rizal Madar et al. as cited in Hanapi et al., 2014). All employers under study in this research stressed the need to equip Technical College graduates with both technical and soft skills. Idris and Rajuddin (2012) studied Technical College graduate employability skills needs in Kano State, Nigeria and found that Technical College graduates lacked the skills needed by employers. It is on the premise that graduates must be equipped beyond technical skills that the Employers Association of Australia called on institutions of education and training to design a curriculum that captures both technical and soft skills (Sheldon & Thornthwaite, 2005).

#### **7.2.4 Employability as construed by Employers**

Some of the soft skills highlighted by employers in this study as paramount to their establishments include administrative, public relations, teamwork, interpersonal, and communication skills. Others include: reading, willingness to learn, mathematical literacy, ability to work with less supervision, quick adaptation and creativity/innovative skills. This is in consonance with Lowden, Hall, Elliot and Lewin (2011) who stressed that employers lay more emphasis on such skills as teamwork, interpersonal, communication, mathematical literacy and ability to work alone with one's initiative. Harvey as cited in Oresanya, Omodewu, Kolade and Fashedemi (2014) agrees with this when he affirmed that employers are in dire need of such skills as communication, creativity/innovative, interpersonal, adaptability/flexibility among others.

From the foregoing, it is evident that Technical College graduates do not possess the relevant skills required by employers to be industry relevant as perceived by employers in this study. This finding is in agreement with Ransul and Mansor (2013); who in bench-marking employability skills need of graduates from manufacturing employers in Malaysia highlighted seven key skills; time and material management skills, numeric skills, personal attributes, interpersonal skills, creative and innovative thinking skills, technology application and informational skills. Also in consonance with this study is the finding of the Academy for Education Development. The study which sought the employability skills need of Technical College graduates highlighted

the following; team work, personal management, ability to identify and apply right solution to a problem, thinking skills, among others (AED, 2008). The finding of this study is supported by an online poll in Pakistan on the relevance of TVET programmes to industrial required skills. The poll showed that TVET programme did not meet industry expectation, thus showed a mismatch between skills acquired and skills required (Reliance Services, 2012). However, according to Reliance Services (2012) TVET was considered a potential tool for employment.

From the discussions above on the construction of employability by all four stakeholders, it is worth noting that the TC graduates only depend on their trade related skills for employability, this indicates the lack of awareness amongst these graduates on the skills required from them by the industry. What this implies is that Government Technical College Ahoada does not have the capacity to prepare its graduates to meet the skills required in the industry. This remark corroborates Omede (2012) who submits that the present educational system in Nigeria is not responsive to industrial and societal needs. Therefore, the next section presents the discussion on the silent voices of graduates.

### **7.3 SILENT VOICES OF THE GRADUATES**

The analysis of the nature of interfaces highlighted an insignificant recognition of the voices of graduates in the interfaces formed. In other words, the voices of graduates were not visible. This resulted from the way these graduates constructed the skills they needed for their employability. From findings of the first research question, it is imperative to note the lack of awareness amongst these graduates in their employability skills' requirements. These graduates perceived that their employment strength is based on their technical skills background and as such overlooked the development of the desired soft skills which are in dire need by employers. These perceptions amongst Technical College graduates is however in agreement with Pop and Barkhuizen (2010) who argued that the lack of awareness of labour market requirement amongst graduates made it very difficult for them to learn the basic skills required for their employment. The absence of their voices is a clear indication of lack of clarity in their career. When there is no clear picture on what the future holds for these graduates, some of them tend to manage their employability (Tomlinson, 2007). Given that these graduates are left to manage their employability, there are possibilities where the labour market becomes

saturated and competitive due to massive turn-out; for those who cannot manage their employability, the resultant effect is a high rate of unemployment. Unemployment amongst youths has been a source of major concern in Nigeria and different parts of the world. This could be traceable to the invisible voice of graduates due to supply-driven employability policies (Tomlinson, 2007). In agreement with the finding of this study is the submission of Coetzee and Esterhuizen (2010) who remarked that lack of clarity regarding future career options and goals reduces the sense of career purpose among graduates. In other words, having knowledge of one's career goals encourages energetic behaviours that boost the improvement of one's physical and emotional welfare as well as an enthusiastic attitude towards oneself and life in general (Coetzee & Esterhuizen, 2010). According to Pool and Sewell (2007), self-awareness should be created in graduates to enable them to give attention to things they enjoy doing and are interested in; things that motivate them and that suit their personalities and career interests. They also need to be availed of an insight of the labour markets to see what opportunities that are available to them, how to present themselves effectively to prospective employers and how to make considered decisions about their careers. According to Barnett and Bradley (2007) career-development services have the capability to positively affect the career-development ability of an individual, behaviour and motivation of people. In support of this, Coetzee and Bergh (2009) posit that such services may include but are not limited to education, guidance and coaching for self-empowering career behaviours and career meta-skills that have been shown to underpin individuals' career adaptability and general employability. Considering the finding of this study with regard to Technical College graduates, it is imperative to commence career-development programmes which are aimed at preparing graduates for the world of work (Coetzee & Esterhuizen, 2010).

The discussion on the silent voice of graduates was a reflection of the findings from Research Questions One and Two. The summary of findings presented in Table 6.6 in Chapter 6 shows the type and nature of interfaces in terms of convergences in skills defined by each stakeholder. However, it is seen that of the six interfaces formed; only two of these interfaces involved TC graduates. This to a great extent influenced the nature of the interfaces formed; therefore, I will present in the next section the nature and effects of these interfaces and their implication for TVET with regard to Technical College programmes in Nigeria.

## **7.4 EFFECT OF THE INTERFACES AND THEIR IMPLICATIONS FOR TVET IN NIGERIA**

The image and status of TVET in Rivers State, Nigeria as discussed in Chapters 1 and 3 is confronted with problems as the number of students enrolling for TVET programmes is declining due to graduates not being able to acquire employment after graduation. Mechanisms need to be put in place to simultaneously promote TVET Colleges in order to motivate students' enrolment and to assist TVET graduates find employment. One of the participant's views in the study as to what challenges the development of technical education faced was lack of interest by managers. Kingombe (2012) perceived that the field of TVET often suffers from low standing, and this has implications for both pre-service teachers and in-service teachers training throughout their professional life. Consequent upon this, Billet as cited in Maclean and Wilson (2009) contends that it is as though we are dealing with a sector whose influences are not fully cherished or tacit, and whose status is shaped by societal views and opinions about learning of vocational knowledge. Another problem peculiar to TVET at the Technical College level was a participant's (employer) view on lack of articulation of Technical College programmes into higher education, where, after graduating, there is no progression on same skill in higher education and they become stranded. The implication of the low status of TVET lies in its inability to meet its desired objective as stipulated in the NPE (2004). However, with measures put in place, its status could also be raised to meet the expected demand.

The interfaces discussed in Chapter 6 revealed the convergences and divergences in terms of skills required amongst TVET stakeholders. The analysis highlighted the variations in convergences that restrict or support the interfaces and thereby unveil the implications of these variations for TVET in Nigeria. These convergences are with variations on maintenance-technical skills; for soft skills it embraces self-reliance, communication, problem-solving, mathematical literacy, analytical thinking, technical drawing, interpersonal and human relations. The teachers were of the view that maintenance skill should be part of all the trades; whilst graduates consider maintenance skill is narrowed to electrical trade only.

All four stakeholders converge with variations on self-reliance. The policies see self-reliance as not only related to personal responsibility, but to economic development

and job creation, whilst for teachers' self-reliance is the ability of the graduate to be sufficiently independent in his/her field to employ others. The graduates see being self-reliant as the development of relevant skills as well as attitudes, behaviours and values required for their sustained survival, both at an individual and community level; for the employers, self-reliance is closely linked with the ability to think innovatively with any particular situation that may arise in the course of a normal day's work

Another variation was on communication skills; all three stakeholders' foregrounded reading and writing skills. However, additional skills that were foregrounded in the two policies included listening skills.

The ability to solve problems is seen by Technical College teachers as a significant attribute in that it grants Technical College graduates proficiency in their various areas of specialisation, whilst problem-solving in the policies is broadly perceived to incorporate scientific, decision-making and creativity skills. From the employers, problem-solving skills means to be innovative, "to create something out of nothing when the need arises"

With regard to mathematical literacy skills, all three stakeholders underscore the importance of being savvy with numbers.

Policy-teacher interface holds a variation for analytical thinking skill; Technical College teachers' perceptions of analytical skills are closely linked to the Technical graduates' ability to solve problems.

Policy-employer interface converges with variations on technical drawing and interpersonal and human relations skills. The policy interprets technical drawing skills as:

- An understanding of the theoretical and applied concepts relating to the use of ICT to facilitate visual communication of ideas in the construction and production industry;
- The ability to stimulate, develop and enhance entrepreneurship skills in the diverse areas of drawing studio practice.

Conversely, employers consider the ability to interpret basic technical drawings as a key requirement among Technical College graduates

With regard to interpersonal and human relation skills, the policies' focus is on the development of moral and spiritual principles in Technical College graduates. Both

policies set to promote spiritual, moral and cultural values in Technical College graduates in order to prepare the graduates for citizenship in their communities and societies. The employers, on the other hand, place great emphasis on public relations and interpersonal skills as it relates to the image of their establishment. However, it is imperative to note that these variations in skills definition by each stakeholder indicate a lack of common understanding of their definitions of these skills therefore resulted in the weakness of alliance formed.

What such weaknesses foregrounds is a call for policy reform in order to address the issues that led to the feeble interface experienced at the point of policy construction and skills development. The reason is to address the issue of skills mismatch and to make the Technical College programme responsive to the need of industry/labour market. The nature of interface among stakeholders can be altered; this can be achieved through adjustment of the internal features within each of the spheres (policy, Technical College and industry) such as the review of employability skills policy, adequate funding, employment of qualified teaching and non-teaching personnel, provision for effective TVET governance, cooperative partnership in curriculum design process among others. Suffice it to say that the nature of an interface is not fixed, but dynamic. In addressing the issues that will promote strong interface among stakeholders, the following section presents discussions on internal features of each stakeholder-effective TVET governance, effective monitoring and evaluation, curriculum slippage

If TVET in Nigeria must deliver its proposed objective, then all effort must be directed towards reducing any gap that will compromise its standard. In the face of new global competitiveness in skills demand and the rising level of youth unemployment, TVET is a major panacea to high rate of unemployment among graduates of technical education in Nigeria. The purpose of TVET is education for employment (Bandeled & Faremi, 2012); that objective is derived from the definition of TVET which was offered by UNESCO and ILO in Badawi (2013 p. 284) as:

A comprehensive term referring to those aspects of the educational process involving, in addition to general education the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life

Like every other educational programme, the Technical College programme in Nigeria is designed with the objective of producing graduates who will become craftsmen and technicians to take charge of the middle manpower level of both private and public sector of the economy (Umar & Ma'aji, 2010). The importance of TVET cannot be contested in other industrialised nations of the world, but in the case of developing countries like Nigeria, it is still ill perceived by the public (Amodu, 2011). These beliefs of the public made achieving the objective set for Technical College programmes since its inception a mere dream.

Consequently, what is required at this point is to correct the anomaly posed by the weaknesses observed in the policy statements is a reform that is strategic, feasible and achievable. Lack of effective TVET governance was due to weak institutional support within the system. The regulatory body ought to have enforced strict compliance at the points of implementation across the institutions. According to MacDonald, Nink and Duggan (2010) effective TVET governance mechanism, will give consideration to labour market demand (TVET being responsive to industrial need); meeting needs of both formal and informal sector in relation to employment and the professional capacity of TVET and instructors.

More so, the issue of effective monitoring and evaluation is brought to bear in planning and executing a result-oriented TVET programme. This can only be achieved through periodic and systematic monitoring and evaluation to be qualitatively assured of its (TVET) outcome. For TVET to be responsive or achieve its preconceived philosophy for Technical College programmes in Rivers State, and Nigeria in general, it must be monitored for its efficiency and subsequent improvement. According to Chalmers (2008), to avoid measuring TVET performance arbitrarily by the rule of the thumb, educators have developed quality assurance indicators (QAIs) as measures which give information and statistics about educational usefulness, efficiency and enactment in diverse contexts. According to UNICEF (2002) there are five key areas of quality assurance indicators, consisting of: benefit of the programme content to the students; the quality of environment where the training is carried out; quality of the programme content; processes that sustains the quality of such programme; and the result from such learning environment. Complementarily, this also includes; the student's behavioural characteristics, attributes and demographic factors; the educator's professional expertise and pedagogical skills; the teaching process, curriculum and learning environment, as

well as the final output of such programme (Ehinder, 2004). The essence of monitoring and evaluation is to deliver to the government and other concerned investors information for programme design and enactment approach to inform continuance in TVET sector reforms (Morrow, 2012). Carrying on with programmes such as Technical College training without monitoring and evaluation through labour market information is detrimental to the success of the programme. According to Rami and Akhuemonkhan (2014) a nation with an operative TVET system will experience constant improvement in industrial development and capability. To ensure TVET programmes meets the need of the labour market, TVET policy makers need to engage with employers and unions through labour market interaction; this ensures that what is taught in Colleges and Technical Colleges responds to workplace demands (Field, Hoeckel, Kis, & Kuczera, 2009). When an effective monitoring and evaluation mechanism is established, the question of if the programme is responsive to the needs of industry, or if there are qualified technical personnel, will never emanate. To be assured of quality in any TVET programme, Technical Colleges inclusive, the programmes must be properly monitored and regularly improved.

#### **7.4.1 Curriculum slippage**

Curriculum slippage in planning and implementation is prompted at the Technical College level. Results emanating from the analysis of participants' (teachers and graduates) views in Chapter 5 highlight some factors that impede effective implementation of the curriculum such as lack of training materials and equipment, dearth of qualified technical teaching and non-teaching staff. Others include: obsolete and non-functional equipment, lack of staff development, poor management of Technical Education in the State due to the absence of Technical Technical Colleges Board and qualified technical personnel, among others. Ashibogwu cited in Raimi and Akhuemonkhan (2014) remarked that the Monitoring of Learning Achievement (MLA) in Nigeria highlighted the discrepancy between planned curriculum (curriculum in theory) and the achieved curriculum (curriculum in practice). As mentioned earlier, these factors spanned human and non-human factors. The human factors consist of inadequate teaching and non-teaching personnel, poor professional staff development and poor management of TVET in Rivers State due to the absence of Technical College s Board. While the non-human factors embrace poor funding, over-crowded classrooms,



lack of training facilities and functional modern equipment including lack of curriculum that is aligned with the needs of industry. This finding agrees with Garba (2004), Gabadeen and Raimi (2012) who attributed the constraints to effective implementation of the Technical College curriculum to inadequacy of experts, irrelevant study materials, unproductive teaching method, scarcity of training facilities and equipment for practical workshop activities and poor funding. This also agrees with Dasmani (2011) who contends that the difficulty experienced by technical institute graduates in Ghana was due to lack of infrastructural and training facilities, lack of partnership with industry to improve the practical experience of teachers and trainees and over-crowded classroom. With the findings of this study, it becomes very difficult to meet the core objective of Technical College programme under the guise of TVET which is education for employment and self-reliance. This is clearly stated as the first objective of the Technical College programme in the National Policy on Education (NPE, 2004). The policy makes it clear that after completing one or some modules of employable skills, trainees will secure employment in the industry.

#### **7.4.2 Collaborative Curriculum Planning**

Inabilities of Technical College graduates to possess the desired skills needed for employability according to employers in this study were attributed to some factors that prejudiced the weak nature of interface formed; issues such as lack of consultation and partnership in the curriculum design process was mentioned. This is in agreement with Wallenborn (2010) who argued that the designing of a training programme that will facilitate higher competencies requires the participation of the training provider and employers of the products of such programmes; the reason is that recognition will be given to training benefits. Also highlighted in the finding was lack of employability skills. Kitainge as cited in Ngure (2013); Audu, Kamin and Balash (2013) agreed with this by stating that the lack of the Technical College curriculum to respond to skills need of industry could be attributed to a supply-driven approach in planning its programmes and low employer participation. However, employers in the study partially attributed lack of employability skills by Technical College graduates to the dearth of competent teachers; they described the situation as ‘theoretical teachers producing theoretical graduates’ this notion is in line with US Embassy in Nigeria (2012) The

Embassy lamented on the poor quality of TVET teachers as a major problem facing TVE programme in Nigeria.

#### **7.4.3 Effective Implementation of Technical College Programme**

The OECD-AfDB AEO (2008) assessment of successful African countries' suggested eight necessary conditions that need to be met in formulating and implementing a successful TVET programme. These conditions are: the adoption of a vision and governance at the highest political level; enhancement and preparation for skill needs; advancement on the quality of TVET; addressing the skills need of the informal sector; facilitating the evolution of the productive sector through technological leaning and innovation; encouraging collaboration with all stakeholders; linking the local communities; and strengthening resident administration of TVET through the assignment of responsibilities to regional establishments.

However, to revamp the role of Technical Colleges' in their capacity to enhance employment in line with the objectives in the NPE 2004, there is a need for an urgent a re-visitation regarding the following factors: status of TVET, slippage in the provision of TVET facilities and equipment, organization and administration of TVET, curriculum reform and development, TVET teacher education and relationship between TVET institutions and enterprises. The next section presents a discussion on these factors.

#### **7.4.4 Slippage in the Provision of TVET Facilities and Equipment**

Employers, graduates and teachers were vociferous about the facilities and equipment at TVET Colleges. A perpetual problem encountered is the "out dated" equipment, inadequacy in their maintenance together with the delivery of useable training materials. Failure on the part of Government to provide routine and preventive maintenance is the major cause of this problem. These issues have implications for the delivery of quality TVET instruction, expertise of graduates and employer requirements in terms of skills. One of the employers lamented obsolete equipment in TVET institutions. Ngure (2013) argued that employers in Kenya attributed the poor performance of TVET graduates on the use of obsolete equipment in their training institutions. In a situation where training equipment is outmoded and not functional, it is unthinkable to expect a quality TVET programme with respect to practical skills attainment. According to Idialu (2007) and

Afeti (2009), for effective TVET delivery, there is a need for adequacy in the provision of training facilities and appropriate workshop equipment to ensure quality training in TVET institutions. The result of this study contradicts that of Savage and Brennan (2011) who contend that most TVET providers visited in Afghanistan have modern equipment and training materials to execute training. However, they also attributed the limited growth of TVET providing institutions to lack of the necessary training facilities to carry on training. In corroboration of this study, Idialu (2007) remarked that most training institutions in Nigeria are bedeviled by lack of training equipment, workshop and allied facilities and poorly equipped laboratories. Training cannot be properly done without the necessary facilities and equipment needed; it is on that premise that Olaitan (1996) noted that the environment where TVET is organized is not properly prepared in terms of being equipped with the necessary training facilities and equipment.

Desirous to achieve the anticipated quality of TVET programme calls for the provision of the necessary facilities and equipment in terms of workshop/laboratories, training materials and equipment needed for such programme. Training environment should be a prototype of the workplace (Idialu, 2007); he further remarked that enhancing the quality of teaching and learning demands teaching with real materials in an environment that is typical of the workplace. Blanton as cited in Akamobi (2005) remarked that there is a limit to which teachers can improvise; therefore teaching in an environment that looks like the workplace has the following potential: it adds interest and effectiveness to instructional programmes through the provision of different learning experiences by teachers; facilitates and makes learning more enjoyable for students; it eliminates inexperience among students; it stimulates the interests of students thereby bring out the will in them to contribute in their own learning.

#### **7.4.5 Slippage in the Organization and Administration of TVET**

According to teachers in the study one of the main glitches inhibiting the effectiveness of TVET programmes is poor organisation and administration of the programme in the State by unqualified persons. This notion is consistent with Nwaolu (2005) who admitted that priorities are often misplaced when technical and vocational education is left under the management of non-experts in the field. Another issue raised by teachers in the study is the lack of a separate Technical Colleges Board to oversee the affairs of TVET in Rivers State. According to Osami (2013), in recent times the management of

Technical and Vocational education in Rivers State has been managed by those in other fields of education who possess little or no experience with TVET. Osami further observed that some courses offered in the State owned Technical Colleges were adopted from a curriculum which does not meet the need of industry within the state, and he attributed this to poor organisation of the management personnel (Osami, 2013)

Therefore, with proper organisation and management mechanisms, TVET programmes can yield a positive impact in the State. Accordingly, the establishment of such Boards in Lagos State Nigeria facilitated the employment of about 200 Technical College graduates in Lagos through coordinated partnership between the Lagos State Technical and Vocational Technical Colleges Board (LASTVEB) and industry (Olugbamila, 2014).

Idialu (2007) advises that the administration and management of TVET institutions should be left in the hands of TVET professionals, and that the heads of such training institutions should be trained intermittently through periodic workshops and seminars; this will boost the quality of TVET in our Technical Colleges and Colleges.

#### **7.4.6 TVET Teacher education**

Participants in this study stressed the ‘lack of knowledge, competencies and work based experience of TVET teachers and noted that they must be able to transfer to the trainees’ actual occupational and hands-on skills which are applicable to present practices in the workplace’. Technical knowledge is an important capability required by every TVET teacher to produce different instructional procedures (Chua & Jamil, 2012). According to Sahin (2011), in recent times technical knowledge is no longer considered a tool used to aid teaching and learning processes but has become a necessity and essential knowledge every teacher must possess. As reported by King and Wang (2008) the lack of technical knowledge in teachers has led to unsuccessful teaching and learning processes and impeded the learning process and its achievement.

United Nations Education, Scientific and Cultural Organisation (UNESCO) in the Second International Congress on TVET pointed out that the bridge between economic and human development is hinged on a well-trained teacher; the reason is that the teacher is considered as an agent of change in knowledge based economy (Majumdar, 2011). The readiness of the TVET teacher is of paramount concern to educational

organisers and administrators (Bandeke & Faremi, 2012); this informed the understanding in the Federal republic of Nigeria (FRN National Policy on Education (2004) that “no nation can rise above the quality of her teachers”. Gidado (1995) concludes that the challenge with teacher education in Nigeria is that the quality of teachers trained are not adequately equipped enough to withstand the mandate of the teaching profession in Nigerian Technical College.

Ulinton as cited in Osarenren-Osaghae and Irabor (2012) advocates that in skill-based courses, the preparation of the teacher is very essential because of the pragmatic skills and proficiencies that must be divulged. The implication of this is that the position of a qualified technical teacher cannot be compromised when it comes to the delivery of skill-based courses.

Berhe (2011) contends that the achievement of quality TVET delivery solely depends on the provision of effectively trained teachers and other technical personnel that bear the charge of preparing students with quality vendible skills for the vigorously changing workforce. Wenrich cited in Antonios (2006) argued that quality TVET programmes are distinguished by having to their credit highly trained, experienced, technically competent teachers. This is supported by Idialu (2007) who remarked that the type of teacher required in TVET is the type that can impart skills, knowledge and competencies required in TVET. According to Murgor (2013) due to multifaceted skills required to competently cope with the fast-tracking industrial change it is imperative to equip TVET teachers with the required information required for transformation. Technical College teachers are to possess first hand industrial experience to enable them to transmit such to the trainees. It is on that premise that Audu, Musta'amal, Kamin, Saud and MM (2014) suggests that Technical College teachers need to undergo training in practical and pedagogical skills in to be able to transmit same to their trainees.

According to Idialu (2007) the resultant effect of new social needs, equipment, and technology needed to meet the growing industrial demands and new education equipment used for the impartation of skills, the present day TVET teacher cannot meet up with these challenges. He further submits that these skills and knowledge makes it essential to retrain the vocational education teacher for the accomplishment of today's TVET program. The promotion of a *demand-driven* TVET does not guarantee the quality and significance of training, but to ensure there are complimentary policies to advance the qualification of teachers (OECD-AfDB., 2008).

#### **7.4.7 TVET Curriculum reform and development**

Employers in the study lamented the lack of detailed practical aspects of the Technical College curriculum, and how this has affected their job performance when employed. In some parts of the world, the gap between TVET curricula and industrial requirement is very wide; in other words the relevance of such curricula to industrial development is minimal (Maclean & Lai, 2011). Curriculum reforms should aim at achieving goals such as modernizing programmes to reflect service-oriented economies, improving competencies thereby making it more pragmatic, as well as reflect the need of the modern society (Academic Leader, 2004). Nwaokolo (2004) described technical and vocational training in Nigeria as classroom oriented training. This assertion was supported by UNESCO in Kennedy (2012) that TVET programmes in Nigeria lack the practical ingredients. Okenwa (1999) attributed the poor vocational technical training programme (Technical College inclusive) in Nigeria to lack of industrial base experience, given the fact that much of the training is theoretical. This finding is in agreement with Fu and Tu (2013); their study based on employers' perspectives contends that TVET training is too theoretical and this has led to the production of graduates who lack the competence to deal with modern technology. Similarly, Dike (2009) lamented that the inability of the Nigerian Technical College system to meet with national developmental needs of the country is associated to the excessive emphasis placed on the theory aspect of the curriculum compared to the practical; this most times leads to students' exposure to more theory than practical.

According to Radwan, Akindeinde cited in Kingombe (2012) to foster development through the avoidance of diverse market failure-namely mismatching of skills with training provision and underinvestment in training, there is a need for industry-Technical College partnerships to support the curriculum development process.

#### **7.4.8 Relationship between TVET institutions and enterprises**

Establishing links between TVET institutions and industry has enormous benefits to both parties and the economy of any nation (Triki, 2013). Partnering with industry many advantages for TVET institutions and the nation, and this will to a large extent reduce the high level of unemployment arising from skills mismatch. According to Callan and Ashworth, (2004) partnership with industry in curriculum development is an added

advantage in making TVET programme responsive to the need of industry. Besides, partnership between training institutions and industry creates avenues for work-based learning and makes the delivery of curriculum efficient (El-Raghy as cited in Triki, 2013). Comyn (2007) cited in Comyn (2009) contends that practical based learning cannot be achieved through classroom knowledge; rather it calls for specific participation and commitment of industry in related fields. Participants (employers) in the study highlighted the lack of partnership in curriculum development. Partnership between TVET institutions and industry has a broad contribution to the training programme; the issue of skills mismatch will be eliminated. The implication is that there will be input in terms of skills needs in the curriculum and technical support to enhance teaching and learning (Comyn, 2007 in Comyn, 2009). According to Grunwald (2008) economic growth vital for a country's development and for fighting paucity and unemployment is difficult without industry contribution; he further added that enterprises play an essential role in creating employment and income for societal and personal needs. Revitalization in the TVET that will spearhead growth of scientific revolutions cannot be single-handedly achieved by government without proper partnership with enterprises that possess the technological know-how, vocational experiences and economic proficiency (Abubakar, 2010). In support of this assertion, Grunwald (2008) enumerated the following areas of key alliance between TVET institutions and enterprise embracing: training and retraining of technical personnel; development of instructional materials; setting principles for TVET educators; developing curricula among others.

Relationships between TVET institutions and industry are one way to build employability and reduce the possible skills gap arising from a supply-driven pattern of education. Work-based learning, industrial attachment (internship) cooperative work placement all call for need to partner with industry. As highlighted in this study, industrial training enhances the practical and work experience of graduates. Munro and Stuckey (2013) agree with this; developing job-ready skills, conducts and attitudes can be naturally achieved when you engage in practical and real life industrial environment in any given scope of the industry. Rae (2007) supported the statement that partnership with enterprise can help boost staff and students' employability through work based placement and other industrial learning programmes. Osman, Omar, Kofi, Mat, Darus

and Rahman (2008) also concur that students' skills are improved when they take part in industrial attachment.

Teaching the desired employability skills in TVET institutions can also be achieved through Technical College-industry staff exchange programmes. According to Grunwald (2008) such partnership could foster the need to identify the practical needs of technical staff, train and retrain technical teachers and workshop attendants and set a standard for TVET educators. In line with this Raimi and Akhuemonkhan (2014) suggest that one of the ways to revitalise TVET and in this way increase employability is to increase exchange programmes with industry to enrich the practical skills of teachers and bridge the gaps between theory and practice as demonstrated in the industry

Partnership between TVET institutions and enterprises has diverse ways of reducing the ugly scourge of unemployment thereby building the desired employability skills in TVET graduates; suffice it to say that such partnership if encouraged will add relevance to TVET programmes and industrial experience of both staff and students of TVET institutions.

## **7.5 REFLECTION ON THE TRIPLE HELIX THEORY**

As part of the core principles of Triple Helix of academia-industry-government relations, academia is to take a prominent role in relation to industry and government (Etzkowitz, Dzisah, Ranga & Zhou, 2007) in an economy where knowledge is sourced for the leverage of humanity. This will be achieved when academia, industry and government act in collaboration with each other in order to stimulate innovation in a knowledge-driven economy (Leydesdorff, 2000). However, the findings of this study are not supported by the core principle of the Triple Helix theory. From the findings of Research Questions One and Two, it is seen that a sharp contrast exists between the findings and what the Triple Helix theory of academia, industry and government relations advocates. In Research Question One, there is no linear trajectory on stakeholders' construction of employability skills needs of Technical College graduates; this implies that there is no common understanding in terms of employability skills required by Technical College graduates. In Research Question Two, the interfaces formed and with variations on different soft skills is another indication that no common understanding exists amongst the stakeholders in this study. With six interfaces formed



and only two involving all stakeholders, it is enough to say that the core principle of the Triple Helix theory which agitates for equal roles amongst the three institutions have been violated (Leydesdorff, 2000). According to the Triple Helix theory, while academia takes a leading role in the knowledge society, government on its part must provide an enabling environment with regard to regulation, tax incentives and the provision of capital. Industry on its part must be ready to take on and exploit research results from knowledge-based institutions (Leydesdorff, 2000). In the light of this, with firm commitment of all stakeholders to effective communication and interaction, the planning of a quality Technical College programme that will lead to wealth creation and employment generation can be initiated. According to Etzkowitz *et al.*, (2007) there are three basic elements of the Triple Helix Model:

1. A more *prominent role for the university* in innovation on par with the industry and government;
2. A *trilateral collaborative relationship* between institutional spheres, whereby the outcome of a given policy is the product of the three institutions rather than coming from one of the institutions; and
3. An *assumption of each other's role* in conjunction to fulfilling their designated roles.

Functional integration, as well as differentiation amongst institutions, takes place through interaction (Etzkowitz *et al.*, 2007). From the finding of this study, it can be deduced that the failure to achieve the objective of the Technical College programme was because too much emphasis had been placed on functional differentiation rather than integration and collaboration amongst the various stakeholders. This approach thus is in contradiction to the Triple Helix theory ("Triple Helix Research Group," 2014).

## **7.6 RECOMMENDATIONS**

Therefore, founded on the results of this study, and for TVET programmes to be responsive to industrial/labour market demands and promotion of employability, there is a need for policy makers to increase the level of access, funding, monitoring and curriculum implementation. The following recommendations should also be considered by policy makers for a result-oriented TVET in employability skills development:

- Teaching the desired employability skills in TVET institutions can be achieved through Technical College-industry staff exchange programmes. Such partnership can foster the need to identify the practical needs of a technical staff, train and retrain technical teachers and workshop attendants and set a standard for TVET educators. In order to revitalise TVET's impact on employability, there is a need to increase exchange programmes with industry to enrich the practical skills of teachers and bridge the gaps between theory and practice as demonstrated in the industry.
- To foster development, to avoid market failure – mismatching of skills with training provision and underinvestment in training – there is a need for industry-Technical College partnership to support curriculum development processes, provision of facilities and any other programme that will facilitate acquisition of employability skills.
- There is need for the establishment of separate Technical Schools Board different from the general Schools Board managing both Technical and General Education in the State. This Technical Schools Board shall be managed by qualified technical personnel for effective administration and organisation of Technical Education in Rivers State
- It is imperative to commence career-development programmes aimed at preparing graduates for the world of work.
- More research should be conducted to ascertain the extent of stakeholders' collaboration in the planning and execution of TVET programmes.

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## APPENDIX A

### LETTER TO GOVERNMENT TECHNICAL COLLEGE PRINCIPAL



University of KwaZulu-Natal  
Edgewood Campus  
Private Bag X03  
Ashwood  
3605  
February 25, 2014

Dear Principal,

#### **RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT YOUR SCHOOL**

My name is Dagogo William Legg-Jack a student reading for a master's degree in Technology Education at the University Of KwaZulu Natal South Africa.

My research study is titled: Employability Skills for Technical College graduates: A Case for Government Technical College (GTC) in Ahoada, Rivers State Nigeria. This study seeks to understand the skills required by the industry for the employability of Government Technical College graduates. Its purpose is to explore if there is an interface between skills acquired by Government Technical College graduates while in school and the skills required by the Metal industry for employability.

I hereby seek your permission to conduct my research at your school in 2014. Data will be collected from the teaching staff of your College using questionnaire and focus group discussion. The teaching staff who decides to participate in this study will be required to complete a consent form. Their participation in this study is voluntary. Sir, you are kindly requested to fill in the attached declaration and consent form which acknowledges the permission granted to undertake my research in your school.

I guarantee that the information gathered will be used for the purpose of the research only. For further information regarding this research you may contact either myself or my supervisors Dr Alant 031- 2607606 (0739479893), Dr Singh-Pillay 031-260 3672 (084 430 3795) Dagogo William Legg-Jack 073 372 1893 (074 335 0613).

Your cooperation will be appreciated

---

Dagogo William Legg-Jack

I \_\_\_\_\_, the Principal of Government Technical College, Ahoada, Rivers State, Nigeria hereby grant permission for the research to be conducted at my College

---

Signature of Principal

Official Stamp

Date



## APPENDIX B

### LETTERS TO GOVERNMENT TECHNICAL COLLEGE TEACHERS



University of KwaZulu-Natal  
Edgewood Campus  
Private Bag X03  
Ashwood  
3605  
February 25, 2014

Dear Teacher,

#### RE- REQUEST FOR YOUR CONSENT TO PARTICIPATE IN MY STUDY

My name is Dagogo William Legg-Jack a student reading for a master's degree in Technology Education at the University Of KwaZulu Natal South Africa.

My research study is titled: Employability Skills for Technical College graduates: A Case for Government Technical College (GTC) in Ahoada, Rivers State Nigeria. This study seeks to understand the skills required by the industry for the employability of Government Technical College graduates. Its purpose is to explore if there is an interface between skills acquired by Government Technical College graduates while in school and the skills required by the Metal industry for employability.

I hereby seek your permission to participate in my study in 2014. Data will be collected from employers using a questionnaire and focus group discussion. The teaching staff who decides to participate in this study will be required to complete a consent form. Their participation in this study is voluntary. Sir, you are kindly requested to fill in the attached declaration and consent form which acknowledges the permission granted to participate in the study.

I guarantee that the information gathered will be used for the purpose of the research only. For further information regarding this research you may contact either myself or my supervisors Dr Alant 031- 2607606 (0739479893), Dr Singh-Pillay 031-260 3672 (084 430 3795) Dagogo William Legg-Jack 073 372 1893 (074 335 0613).

Your cooperation will be appreciated

\_\_\_\_\_  
Dagogo William Legg-Jack

I \_\_\_\_\_, a teacher (educator) and participant in this study hereby confirm that I understand the contents of this document and the nature of the study. I consent to taking part in this study.

\_\_\_\_\_  
Signature of Teacher (Educator)

\_\_\_\_\_  
Date

**APPENDIX C**

**LETTERS TO TECHNICAL COLLEGE GRADUATES**



University of KwaZulu-Natal  
Edgewood Campus  
Private Bag X03  
Ashwood  
3605  
February 24, 2014

Dear Graduate,

**RE- REQUEST FOR YOUR CONSENT TO PARTICIPATE IN MY STUDY**

My name is Dagogo William Legg-Jack a student reading for a master’s degree in Technology Education at the University Of KwaZulu Natal South Africa.

My research study is titled: Employability Skills for Technical College graduates: A Case for Government Technical College (GTC) in Ahoada, Rivers State Nigeria. This study seeks to understand the skills required by the industry for the employability of Government Technical College graduates. Its purpose is to explore if there is an interface between skills acquired by Government Technical College graduates while in school and the skills required by the Metal industry for employability.

I hereby seek your permission to participate in my study in 2014. Data will be collected from Government Technical College graduates using a questionnaire and focus group discussion. The graduate who decides to participate in this study will be required to complete a consent form. Your participation in this study is voluntary. Sir, you are kindly requested to fill in the attached declaration and consent form which acknowledges the permission granted to participate in the study.

I guarantee that the information gathered will be used for the purpose of the research only. For further information regarding this research you may contact either myself or my supervisors Dr Alant 031- 2607606 (0739479893), Dr Singh-Pillay 031-260 3672 (084 430 3795) Dagogo William Legg-Jack 073 372 1893 (074 335 0613).

Your cooperation will be appreciated

\_\_\_\_\_  
Dagogo William Legg-Jack

I \_\_\_\_\_, a participant in this study hereby confirm that I understand the contents of this document and the nature of the study. I consent to taking part in this study.

\_\_\_\_\_  
Signature of graduate

\_\_\_\_\_  
Date

**APPENDIX D**

**LETTERS TO EMPLOYERS OF GOVERNMENT  
TECHNICAL COLLEGE GRADUATES**



University of KwaZulu-Natal  
Edgewood Campus  
Private Bag X03  
Ashwood  
3605  
February 25, 2014

Dear Employer,

**RE- REQUEST FOR YOUR CONSENT TO PARTICIPATE IN MY STUDY**

My name is Dagogo William Legg-Jack a student reading for a master’s degree in Technology Education at the University Of KwaZulu Natal South Africa.

My research study is titled: Employability Skills for Technical College graduates: A Case for Government Technical College (GTC) in Ahoada, Rivers State Nigeria. This study seeks to understand the skills required by the industry for the employability of Government Technical College graduates. Its purpose is to explore if there is an interface between skills acquired by Government Technical College graduates while in school and the skills required by the Metal industry for employability.

I hereby seek your permission to participate in my study in 2014. Data will be collected from employers using a questionnaire and focus group discussion. The employer who decides to participate in this study will be required to complete a consent form. Their participation in this study is voluntary. Sir, you are kindly requested to fill in the attached declaration and consent form which acknowledges the permission granted to participate in the study.

I guarantee that the information gathered will be used for the purpose of the research only. For further information regarding this research you may contact either myself or my supervisors Dr Alant 031- 2607606 (0739479893), Dr Singh-Pillay 031-260 3672 (084 430 3795) Dagogo William Legg-Jack 073 372 1893 (074 335 0613).

Your cooperation will be appreciated

\_\_\_\_\_  
Dagogo William Legg-Jack

I \_\_\_\_\_, an employer hereby confirms that I understand the contents of this document and the nature of the study. I consent to taking part in this study.

\_\_\_\_\_  
Signature of Employer

\_\_\_\_\_  
Date

## APPENDIX E

### QUESTIONNAIRE TO BE ADMINISTERED TO TEACHERS

#### EMPLOYABILITY SKILLS FOR TECHNICAL COLLEGE GRADUATES: A CASE FOR GOVERNMENT TECHNICAL COLLEGE (GTC) IN AHOADA, RIVERS STATE NIGERIA

The study is designed to answer two research questions. There two phases. Phase one will answer Research Question One which is divided into three stages. Phase two will answer question two, which is only one stage.

#### Phase 1

Stage 1: To identify the employability skills for Government Technical College graduates as recommended by the Nigeria National Policy on Education 2004 and the Senior Secondary Education Curriculum 2007; Policy documents on Skills development in Nigeria educational system will be analysed using the Jansen and Reddy (1994) document analysis tool to identify the skills recommended by the Federal Ministry of Education in Nigeria.

The questions that will be explored in the documents analysis are viz;

What skills set is recommended for employability of Government Technical College graduates in Nigeria since 2004

From Jansen and Reddy (1994), the concept of curriculum gazette, curriculum in context and curriculum in practice. These concepts shall be applied to skills development as follows;

- **Skills development as gazette**- what the ministry of education in Nigeria hopes to achieve through its skills development policies;
- **Skill development in context**- what historically constituted the national imperatives that underpins the skill development policy;
- **Skills development in practice**- what skills are being taught and learnt by what skills are being taught and learnt by Technical College teachers and graduates respectively?

The third concept, skills development in practice, will be explored in stage two.

Stage 2: questionnaires and focus group interview will be administered and conducted on teachers and graduate cohorts respectively to identify skills development in practice.

Stage 3: questionnaires and focus group interview will be administered and conducted on employers, to identify skills required for employability of Government Technical College graduates.

## **Phase 2**

Data generated from the analysis of Research Question One will be juxtaposed to check whether an interface exists between skills acquired by Government Technical graduates and skills required by the employers. This shall be carried out to provide answer to Research Question Two.

EMPLOYABILITY SKILLS FOR TECHNICAL COLLEGE GRADUATES: A CASE FOR GOVERNMENT TECHNICAL COLLEGE (GTC) IN AHOADA, RIVERS STATE NIGERIA

**BIOGRAPHICAL INFORMATION**

Age	
Gender	
Qualification	
Date obtained	
Numbers of years employed	
Capacity in which employed	
Courses that you teach/taught	

1.1. What is your view of the Technical College curriculum? Please elaborate

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1.2. In your opinion, are there Skills or content in the curriculum that you consider important/unimportant? If so kindly list them.

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2. What kind of skills set do you think is required of the graduates of Government Technical College for them to be actively employed? Please explain.

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3. Of what significance do you think the skills mentioned above is to graduates of Government Technical College. Please elaborate

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4. Any other additional comments?

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## APPENDIX F

### QUESTIONNAIRE TO BE ADMINISTERED TO GRADUATE COHORTS

#### EMPLOYABILITY SKILLS FOR TECHNICAL COLLEGE GRADUATES: A CASE FOR GOVERNMENT TECHNICAL COLLEGE (GTC) IN AHOADA, RIVERS STATE NIGERIA

The study is designed to answer two research questions. There two phases. Phase one will answer Research Question One which is divided into three stages. Phase two will answer question two, which is only one stage.

#### Phase 1

Stage 1: To identify the employability skills for Government Technical College graduates as recommended by the Nigeria National Policy on Education 2004 and the Senior Secondary Education Curriculum 2007; Policy documents on Skills development in Nigeria educational system will be analysed using the Jansen and Reddy (1994) document analysis tool to identify the skills recommended by the Federal Ministry of Education in Nigeria.

The questions that will be explored in the documents analysis are viz;

What skills set is recommended for employability of Government Technical College graduates in Nigeria since 2004

From Jansen and Reddy (1994), the concept of curriculum gazette, curriculum in context and curriculum in practice. These concepts shall be applied to skills development as follows;

- **Skills development as gazette-** what the ministry of education in Nigeria hopes to achieve through its skills development policies;
- **Skill development in context-** what historically constituted the national imperatives that underpins the skill development policy;
- **Skills development in practice-** what skills are being taught and learnt by Technical College teachers and graduates respectively?

The third concept, skills development in practice, will be explored in stage two.

Stage 2: questionnaires and focus group interview will be administered and conducted on teachers and graduate cohorts respectively to identify skills development in practice.

Stage 3: questionnaires and focus group interview will be administered and conducted on employers, to identify skills required for employability of Government Technical College graduates.

#### Phase 2

Data generated from the analysis of Research Question One will be juxtaposed to check whether an interface exists between skills acquired by Government Technical graduates and skills required by the employers. This shall be carried out to provide answer to Research Question Two.



EMPLOYABILITY SKILLS FOR TECHNICAL COLLEGE GRADUATES: A CASE FOR  
GOVERNMENT TECHNICAL COLLEGE (GTC) IN AHOADA, RIVERS STATE NIGERIA

**GRADUATE BIOGRAPHICAL INFORMATION**

Please provide the response as requested in the box below.

Biographical data

Age:	
Gender:	
Course studied	
<b>If employed within the Industry</b> kindly complete the following questions :	
Specify the sector	
Numbers of years employed	
Capacity in which employed	
<b>If others</b> , kindly complete the following questions:	
What activities are you engaged in?	
How long have you been engaged in the above activities since graduation?	
In what capacity are involved in the above mentioned activities?	
Any other additional comments:	

1. What were your experiences like at the GTC? Elaborate on highlights and low-points.

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2. What kind of skills sets are required in your current employment or activities you are engaged in? Please elaborate;

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3. In your opinion, what would you say about your preparation by Government Technical College for your current employment or activity you are engaged in? Please elaborate;

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4. Any other additional comments;

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## APPENDIX G

### QUESTIONNAIRE TO BE ADMINISTERED TO THE EMPLOYERS

#### EMPLOYABILITY SKILLS FOR TECHNICAL COLLEGE GRADUATES: A CASE FOR GOVERNMENT TECHNICAL COLLEGE (GTC) IN AHOADA, RIVERS STATE NIGERIA

The study is designed to answer two research questions. There two phases. Phase one will answer Research Question One which is divided into three stages. Phase two will answer question two, which is only one stage.

#### **Phase 1**

Stage 1: To identify the employability skills for Government Technical College graduates as recommended by the Nigeria National Policy on Education 2004 and the Senior Secondary Education Curriculum 2007; Policy documents on Skills development in Nigeria educational system will be analysed using the Jansen and Reddy (1994) document analysis tool to identify the skills recommended by the Federal Ministry of Education in Nigeria.

The questions that will be explored in the documents analysis are viz;

What skills set is recommended for employability of Government Technical College graduates in Nigeria since 2004

From Jansen and Reddy (1994), the concept of curriculum gazette, curriculum in context and curriculum in practice. These concepts shall be applied to skills development as follows;

- **Skills development as gazette-** what the ministry of education in Nigeria hopes to achieve through its skills development policies;
- **Skill development in context-** what historically constituted the national imperatives that underpins the skill development policy;
- **Skills development in practice-** what skills are being taught and learnt by Technical College teachers and graduates respectively?

The third concept, skills development in practice, will be explored in stage two.

Stage 2: questionnaires and focus group interview will be administered and conducted on teachers and graduate cohorts respectively to identify skills development in practice.

Stage 3: questionnaires and focus group interview will be administered and conducted on employers, to identify skills required for employability of Government Technical College graduates.

#### **Phase 2**

Data generated from the analysis of Research Question One will be juxtaposed to check whether an interface exists between skills acquired by Government Technical graduates and skills required by the employers. This shall be carried out to provide answer to Research Question Two.

EMPLOYABILITY SKILLS FOR TECHNICAL COLLEGE GRADUATES: A CASE FOR GOVERNMENT TECHNICAL COLLEGE (GTC) IN AHOADA, RIVERS STATE NIGERIA

**EMPLOYER BIOGRAPHICAL INFORMATION**

Please provide the response as requested in the box below.

Name of company	
Company profile	
Name of participant	
Gender	
qualification	
position	
Department employed	
Capacity in which employed	
No of years employed	
Study duration of the above mentioned qualification	
Location of the company where you are employed	
Sector in which employed	
Numbers of years employed	

1. Briefly describe the nature of work that your department engages in.

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2. What skills set are required to be engaged in the type work that your department is engaged in?

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3. Of what significance are the above mentioned skills to the work you do in this establishment?

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4. Do you in any way employ graduates from Technical Colleges in Rivers State?

Yes  No

5. If so what skills do u look for in these graduates?

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6. Any other additional comments?

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## **APPENDIX H**

### **ANALYTICAL TOOL USED FOR ANALYSING THE POLICY DOCUMENTS**

#### **1. Context**

- Sources of the policy document
- What is the historical background/origin of the document?
- What was the purpose behind its production?
- Who is responsible for its publication (the author and context that led to its production)?

#### **2. Recommendation**

- What is the rationale behind the recommendations made?
- What is the conception of the recommendations according to the policy?
- What are the explicit and implicit goals to be achieved through such recommendation?

#### **3. SKAV**

- What skills, knowledge, attitudes are targeted at to be achieved through the policy recommendation
- How are the recommendations made going to be achieved practically?
- What seems to be taken for granted by the policy document in making the recommendation?

#### **4. Implementation**

- What measures are to be taken to ensure successful implementation of the recommendations made?

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# APPENDIX I

# PREMIUM Times



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[Home](#) » [News](#) » [National](#) » 5 Boko Haram suspects arrested in Kaduna

## 5 Boko Haram suspects arrested in Kaduna

[Abdullahi Garba](#)

Published: February 20,2014

### *Suspects say Boko Haram has nothing to do with Islam*

Five suspected members of the Boko Haram sect have been arrested by the Joint Security Forces in Kaduna State.

A top security source, who confirmed the arrest on Thursday in Kaduna, said the arrest was carried out by the Department of State Services, DSS, in collaboration with the Nigerian Army and the Nigerian Police Force in an operation launched to thwart a planned attack on a police station at Kwanan Dangora, Kaduna State.

"During the early hours of Wednesday, 19th February, 2014, while assigned members of the Boko Haram sect were on their way to actualise the planned attacks, they were arrested by the joint security forces," said the source who pleaded for anonymity because he was not cleared to speak officially.

The names of the arrested members of the sects are 28-year-old kingpin, Bashir Ali, Abdullahi Adam 21, Adamu Abdullahi ,29, Abubakar Abdullahi, 32 and Mohammed Umar, 32.

"Some of the weapons we recovered from the suspects includes seven primed Improvised Explosives Devices,one General Purpose Machine Gun , three AK 47 Rifles,five fully charged magazines, 66 rounds of 7.62mm live ammunitions and a jerry can of petrol among other things," the source disclosed.

Mr. Ali,the leader of the foiled attack who spoke briefly said he was recruited into the deadly group by one Lawal, presently at large.

"Lawal gave us a car and N17,000 at Karfi near Kano to attack the Kwanan Dangora police station on Tuesday and deposit all the weapons that will have been stolen from the police station to a hide out in Kunkumi, Kaduna State. I was recruited into the group 14 months ago by somebody I met in a commercial vehicle in Bauchi.But, I must emphasise here that our operation since after the death of Mohammed Yusuf has nothing to do with Islam. We are on a revenge operation against our members that were killed by soldiers in Bauchi five years ago. Boko Haram is split into two. There are the group that kill people randomly and those that are on a revenge mission of specific targets. All these activities has nothing to do with Islam and I must say that

I regret my membership in the group," Mr. Ali said.

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# FOLLOW THE MONEY

## \$20bn

43,790,690,600 (NGN, 20c)

25/9/2013

Sansu Lamido with President Jonathan asking him to investigate \$49bn (N7.84tn) which NNPC has failed to remit to Federation Account.



10/12/2013

Premium Times leads Niger writer to Sansu Lamido to NN President.

11/12/2013

A. reconstituted meeting of the NNPC, CBN, Ministries of Resource and Petroleum Resources, announced that it was \$10.8 bn from domestic credit all though that had not been remitted.



NNPC agrees that it did not remit \$10.8bn. This is how NNPC claimed to have spent it.

## \$10.8bn

- 10.46 billion account subsidy, 41.4m
- 12.25 billion foreign currency guarantee, 41.4m
- 10.77 billion products, anti-crack oil, 41.4m
- 10.27 billion Country's strategic products, 41.4m

### Conflicting Figures

	CBN	NNPC
Gross Oil Revenue	\$65.3bn	\$67.12bn
ATIG ATIG		\$16.74b

How NNPC accounted for \$67.12bn

Revenue expected to be paid into Federation

\* Funds were credited to bank but NNPC failed to pay anything  
 NNPC claimed to have spent \$1.25 billion (2.5 billion) on subsidy etc.  
 NNPC was another \$1.03bn for energy of 2011 subsidy  
 after which spending \$1.74 bn in 2011.

USD 28 billion

NNPC partners paid taxes

to FIRS account

\$15 billion

\* Based on NNPC's claim

Paid by Other third parties

\$2 billion

\* Based on NNPC's claim



NNPC partners paid monies

to DPR account

\$2 billion

\* Based on NNPC's claim

NNPC paid to Federation

Account

\$14 billion

\* Based on NNPC's claim

NNPC claims to have paid amount into NNPC account

\$8 billion

\* Based on NNPC's claim  
 \* Based on NNPC's claim  
 \* Based on NNPC's claim  
 \* Based on NNPC's claim

13/2/2014

## \$20bn

Sansu wants NNPC to remit \$10.8bn, N7.84bn (\$1.2bn) paid as subsidy, \$5bn paid to NNPC and \$2bn paid by third parties. He claimed Yaradua government cancelled her share subsidy.

13/2/2014

Nigeri Deputy-Lamido wants independent auditors to verify NNPC documents that show \$16.8bn was spent on subsidy.

20/2/2014

In the midst of investigations, President Jonathan suspends Sansu Lamido Sansu for fraud and recklessness in CBN.

26/2/2014

Sansu Committee investigating the missing funds expected to meet again with NNPC providing proof of payments.

\* Based on NNPC's claim

Source: Premium Times, Nigerian Tribune, Premium Times, Nigerian Tribune

daily11

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## CBN report on oil revenue – July 2013

### CBN REPORT ON OIL REVENUE FOR THE MONTH OF JULY

According to the Economic Report for the month of July prepared by CBN, available data showed that estimated National collected gross revenues in July 2013 were **N1,055.18 billion**. This figure according to the report exceeded the provisional monthly budget estimate by **11.1%**.

#### N645.65 billion

Oil revenue totalled **645.65 billion**, which constituted **61.3%** of the total revenue. This figure is **0.2%** above the provisional monthly budget estimate. According to the report, the rise in oil receipts relative to the monthly budget estimate was attributed to the increase in revenues from PPL (production licence fee), stamp duty (SDP) and domestic crude oil and gas sales (DMG) during the review period.



Oil price benchmark in the 2013 budget – **179 barrels**, price benchmark assumed – **176 barrels**.  
Crude oil production (including condensates and natural gas liquids) was estimated at an average of **1.83 million barrels per day (bpd)** or **57.36 million barrels** for the month under review.

#### OVIM TECHNICAL, ISIRI/WUJATO



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5 - 7 years

**Geography Teacher at Sodiq Adeleke Group Of School**

5 - 7 years

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**PIB AND TRANSPARENCY****License and contract awards (Section 191 & 112)**

The Investor must award oil blocks through an "open, transparent and competitive bidding process", BUT the President can still make discretionary awards.

Oil sales and petroleum products imports do not have to be transparent or competitive.

The PIB forces government to publish information about some licenses and contracts BUT the owners of the companies involved stay secret. This is some loop-holes which can encourage the occurrence of another MALABO case.

**Sector Information (Section 15 & 45)**

The Inspectorate must "publish reports and statistics" or require the oil companies to publish them BUT it has absolute power to decide what gets published.

**Financial Secretary (Section 129)**

The Regulatory Agencies, PDSF and the Asset Management Corporation must publish their annual financials unless PFD only "UNMARKETED" are required. The National Oil and Gas Companies do NOT have to publish anything.

The Upstream Inspectorate must publish "summaries" of revenues and costs incurred by the oil companies, BUT these can come out up to three years late.

**Company Payments (Section 299 & 301)**

The PIB tries to tell what oil companies must pay Nigeria BUT it does not say how much they will pay in royalties, rents or bonuses.

The Bill says about NOTHING about how government will collect or manage oil money.

**Power to Accept Gifts (Sections 61 & 62)**

The regulatory agencies at the upstream and downstream levels have the power to accept gifts, BUT this not conflict with their regulatory activities and also induces corruption!

**Times budget**

Remember: The document has been prepared by Budget to provide information, design and publish this online. Budget is not responsible for any consequences that may arise from the use of the information provided. The information provided is for informational purposes only and does not constitute an offer or any other financial product. The information provided is for informational purposes only and does not constitute an offer or any other financial product. The information provided is for informational purposes only and does not constitute an offer or any other financial product.





## Resources

- [NHRC report on Baga Killings](#)
- [Nigeria Police Code of Conduct](#)
- [Punch Newspaper](#)
- [Sahara Reporters](#)
- [Vanguard](#)

## Letters

- 
- 
- 

### [Death of John Ndubuka: My Story...Chinedum Orji](#)

Dear Editor, Following last Saturday's 15th February 2014 tragic death of my beloved cousin, Mr. John

### [Heat and power fluctuations at MMA2](#)

Dear Editor, As am speaking now, it's terribly hot here at Murtala Muhammed Airport Lagos..

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## APPENDIX L

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## North's Governors to govt: unmask Boko Haram terrorists, sponsors

Posted by: Gbade Ogunwale, Assistant Editor, Abuja | in News | March 26, 2014

The Northern State Governors' Forum (NSGF) has called on the Federal Government and the security agencies to unmask the dreaded Boko Haram terrorists and their sponsors.

The governors made the call in a communique at the end of an emergency meeting, held at the Niger State Governor's Lodge, Asokoro, Abuja.

Chairman of the Forum and Niger State Governor, Babangida Aliyu, who read the communique on behalf of his colleagues expressed apprehension over security situation in many parts of the north.

The Governors were particularly alarmed by the increasing number of people that are being killed by the Boko Haram insurgents and other criminal elements.

"The crime rate and general insecurity in the region, in particular and the country in general are increasingly becoming a growing concern, ranging from mayhem being perpetrated by insurgents characterised by sporadic killings and attacks on schools and communities leading to several deaths and thousands being displaced", the communique stated.

The Forum called on governors in the north to establish security trust fund in their various states, with members states articulating a coordinated approach towards fighting insurgency in the region.

The governors noted that the ongoing National Conference was intended to provide a more inclusive and focused forum for candid discourse on the daunting challenges confronting the nation and it's citizens.

They listed security, observance of rule of law and corruption among the key areas of focus.

"Therefore, the Forum came up with a common agenda that would put the northern delegates in a better position to tackle the interests and aspirations of the north and the nation at large".

The governors said the outcome of the recent symposium organised by the United States Institute of Peace (USIP) and attended by 12 of the governors in Washington DC was fruitful.

They listed some of the gains of their participation to include: "Provision of strong platform for meaningful discussion and enhanced cooperation that will elaborately address security, social, economic and

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alongside other united key participants to achieve the desired objectives:

"Articulate common position on how to attract support to address issues of common concern to northern states".

According to the communique, the Forum resolved to consolidate on the gains of the symposium by constituting a committee to articulate issues of common concern for a follow up and implementation with the agencies through the Nigerian Embassy in Washington.

Members of the committee include the Secretaries to the Governments of Niger, Zamfara, Borno and Kogi States. Others are the Commissioner for Information of Niger State and the representative of the Nigerian Embassy in the United States.

Besides Aliyu, other governors that attended the meeting included Rabiu Kwankwaso (Kano); Abdulfatah Ahmed (Kwara); Idris Wada (Kogi); Murtala Nyako (Adamawa); Abdulaziz Yari (Zamfara); Ramalan Yero (Kaduna); Garba Umar (Taraba); Deputy governors of Borno and Jigawa States.

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APPENDIX K



YOU ARE AT: Home > National > How Boko Haram invaded army barracks, by survivors



How Boko Haram invaded army barracks, by survivors

BY FROM TIMOTHY OLANREWAJU, MAIDUGURI ON MARCH 27, 2014

NATIONAL

...As residents commend soldiers

Yohana Ali is a university undergraduate living at Fori, a sprawling community in Maiduguri, Borno State capital. He had barely left his house on this Friday morning when he sighted a convoy of over 20 vehicles filled with men in military camouflage. 'They are coming out of the bush this early morning from another operation,' he concluded. To him, the men in the vehicles speeding from the other end of their community towards the Giwa Barracks were men and officers of the 21 Armoured Brigade of the Nigerian Army, their neighbour, possibly returning from an operation.

But Ali was wrong. Upon a closer look, he noticed that the inscription on the Sport Utility Vehicles (SUVs) that were painted in military colours did not bear any semblance with that of the Nigerian Army.

'I saw some Arabic words inscribed on the two vehicles in front and they mounted guns at the back. That was after I had waved at them, thinking that they were soldiers. They waved back at me too, but it occurred to me a few seconds later that they were Boko Haram and not soldiers,' he told Daily Sun. He said he was terrified, as he could neither proceed to the campus for his 8 o'clock lecture nor return home to meet his parents.

'I stood there motionless, even as I thought that the people (insurgents) might shoot me because I was just a few metres away from the road where they passed within the street. But they didn't. They appeared to be in a hurry. They were just going in high speed,' he added.



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