A Comparative Analysis of Technical and Vocational Education and Training Policy in Selected African Countries

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A Comparative Analysis of Technical and Vocational Education and Training Policy in Selected African Countries

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Declaration

I, Ezekiel Bangalu Arfo declare that this thesis is my own work and has not been submitted to any other university for examination.

Signed: …………………………….…………………………

Supervisor: …………………………………………………...

Abstract

In a number of countries, the need to provide knowledge, attitude and skills necessary for employment, economic, technological and national development has renewed demand for improvement and reform in TVET systems to make them fit for this task.

This is a qualitative, interpretive, cross-national comparative study which explores, analyses and compares the TVET policies of South Africa, Ghana and Nigeria to identify their nature, similarities and differences.

The study has the potential to provide insight for educationists, researchers and policy developers, particularly in Africa, regarding the policies, practices and experiences of technical and vocational education and training in other countries, which can in turn be used as a basis for on-going TVET reform. Gaps, silences and positive aspects of the policies analysed were revealed for improvement and consolidation to meet international requirements, standards and recognition.

The study revealed that TVET policy implementations is poor in all the countries covered by the study and the system has failed in providing the much needed skills required for employment, economic and national development. TVET practitioners reflected on the fact that graduates of technical and vocational education and training were poorly trained and are not responsive to the needs of the labour market. The technical and vocational education and training sector is bedevilled by numerous challenges, which include under-funding, inadequate teaching and learning facilities, and poor governance. Other serious challenges facing the sector included inadequate qualified personnel and poor public perception of the sector.

Experiences of practitioners of technical and vocational education and training indicate that the system has a very poor track record and suffers from lack of recognition, under-funding, poor public perception of the sector, lack of adequate learning facilities and lack of qualified staff and inadequate training. This policy learning however has to proceed with caution as this study revealed that TVET policy variants appear to be located in multiple documents which may present challenges for practitioners.

Keywords: cross-national comparative study, technical and vocational education and training (TVET), education policy, African countries, South Africa, Ghana, Nigeria.

Dedication

This thesis is dedicated to my wife, Kwalagu Ezekiel, my daughter, Rose Ezekiel and my son, Arfo Ezekiel

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Table of Contents

List of Figures

List of Tables

Acronyms and Abbreviations

ANBC	Advanced National Business Certificate
ANTC	Advanced National Technical Certificate
BEC	Basic Education Certificate
CBT	competency-based training
COTVET	Council for Technical and Vocational Education and Training
CSSPS	computerised school selection programme system
CTE	career and technical education
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DoE	Department of Education
FEC	Federal Executive Council
FET	further education and training
FETMIS	Further Education and Training Management Information System
FRN	Federal Republic of Nigeria
GETFund	Ghana Education Trust Fund
GoG	Government of Ghana
HEDCOM	Heads of Education Departments Committee
HEQC	Higher Education Qualifications Framework
HET	higher education and training
ICT	information and communication technology
ILO	International Labour Organization
ITF	Industrial Training Fund
JSC	Junior School Certificate
M&E	monitoring and evaluation
MCP	master craftsperson
MDAs	ministries, departments and agencies
MOE	Ministry of Education
NABTEB	National Business and Technical Examination Board
NAC	National Apprenticeship Committee
NAP	National Apprenticeship Programme
NBC	National Business Certificate
NBTE	National Board for Technical Education
NCE	Nigeria Certificate in Education
NGO	non-governmental organisation
NPE	National Policy on Education
NQF	National Qualification Framework
NTC	National Technical Certificate
NTVETQ	National Technical and Vocational Education and Training Qualifications

NTVETQF	National Technical and Vocational Education and Training Qualifications Framework
NVQF	National Vocational Qualification Framework
NVTI	National Vocational Training Institute
OE	occupational education
PE	professional education
PPP	public-private partnerships
QCTO	Quality Council for Trades and Occupations
RSA	Republic of South Africa
SACE	South African Council for Educators
SAQA	South African Qualifications Authority
SD	skills development
SDF	Skills Development Fund
SIWES	Student Industrial Work Experience Scheme
TAFE	training and further education
TVET	technical and vocational education and training
UBEC	Universal Basic Education Commission
UNESCO	United Nations Educational Scientific and Cultural Organization
VE	vocational education
VET	vocational education and training
VTE	vocational and technical education
VTET	vocational and technical education and training

Chapter 1
Orientation and Background to the Study

1.1   Introduction

It is widely recognised that skills and knowledge are indispensable for employment, social inclusion and job creation, economic and national development, and international competitiveness (Akoojee, 2010; McGrath & Akoojee 2009; African Union 2007; ILO, 2011) and that education and skills are crucial for improving workers' employability, industry productivity and inclusiveness of economic growth (ILO, 2011). There has consequently been a strong drive in a number of countries for skills development policies (ILO, 2011) and transformation in their technical and vocational education and training (TVET) systems (RSA, 2008; COTVET, 2012). TVET has attracted attention from both national and international communities (Wanjala Kerre, 1999).

An effective TVET system requires a functional and responsive TVET policy. Corroborating this, Afeti (2009) argues that development and provision of TVET should begin with policy development followed by establishment of a central implementation agency. The role of the central implementation agency should be to coordinate, oversee and rationalise all aspects of the TVET sector (COTVET, 2012). The fundamental purpose of TVET provision include acquisition of knowledge, competencies, skills and attitude necessary for employment, job creation, and wealth creation, and for social, economic and national development (Afeti, 1999). The approach and mode of provision and development of TVET may vary from one country to the other and it may be taught at different educational levels in different TVET institutions (African Union, 2007). Technical and vocational education could be offered in either government controlled or private TVET institutions, and in formal, in formal or non-formal sectors (African Union, 2007).

1.2   International context of TVET

Terminologies and acronyms referring to technical and vocational education and training vary from country to country. They include: occupational education (OE), vocational education (VE), professional education (PE), career and technical education (CTE), further education and training (FET), technical and vocational education and training (TVET), vocational and technical education and training (VTET), vocational and technical education (VTE), training and further education (TAFE) and vocational education and training (VET) (Wang, 2012; Allais, 2012; Tagicakiverata, 2012).

With these inconsistencies in referring to the sector, UNESCO (2004) recommends the comprehensive term ―technical and vocational education and training" (TVET) as more appropriate for the sector:

> [S]ince education and training were complementary parts of preparation for the world of work and should not be perceived as distinct processes, it was proposed that the terminology should reflect this reality. Technical and vocational education and training (TVET) was thus accepted as the more appropriate term. (UNESCO, 2004, p. 2)

For clarity and consistency, this study will accordingly use the term ‗technical and vocational education and training' and the acronym ‗TVET'.

There is no universally accepted definition for technical and vocational education and training (Tripney et al., 2013), but in UNESCO documentation (1996, 2001, 2002, & 2010) ―technical and vocational education and training" is described 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, attitude, understanding and knowledge relating to occupations in various sectors of economic and social life". This conception is widely recognised and used internationally (RSA, 2008; RSA, 2013a; FRN, 2004).

1.3   Background of the study

Although TVET has been cited both as a system for developing skills and competencies necessary for socio-economic development, national development, employment and job creation (Ansah & Ernest, 2013) and as a mechanism for poverty alleviation, self-employment and wealth creation (UNESCO, 2003; Ansah & Ernest, 2013), it has also been negatively perceived in various ways (African Union, 2007; Shah et al., 2011; Ayalew, 2011;

Killian et al., 2009; Osuji, 2003), mainly as a consequence of poor policy and poor implementation. McGrath (2005) indicates that students and other TVET stakeholders consider low prestige as among the critical lingering challenges bedevilling the TVET sector. In South Africa, TVET has been negatively perceived (RSA, 2008). Similarly in Ghana, the sector has been held in low esteem (COTVET, 2012). TVET systems have been criticised for using outdated curriculum and facilities, inadequate teaching and supporting staff, and for offering programmes that do not respond to market and industry requirements (McGrath, 2005; Yihunie, 2011; African Union, 2007; Osuji, 2003). Negative perceptions such as these could be attributed to poor TVET policy which too often relegates the sector to least desired status in the overall education system in many countries (Boateng, 2010). The sector has also suffered from fragmentation and lack of coordination (Yihunie, 2011). A number of authors in the literature (Atchoarena & Delluc, 2001; Oketch, 2007; Bose, 2008; African Union, 2007) note that TVET can be a dead end. Failure of TVET programmes has been attributed to poor planning and also wrong selection of planning personnel (Usman & Pascal, 2009), exacerbated by lack of policy and poor implementation (UNESCO, 2008). Circumstances such as these point to the need for comparative research for policy reform, policy development, policy formulation and system transformation (Vos & Brits, 1990).

1.4   Purpose and rationale of the study

The need to equip individuals with employable skills and competencies has renewed the demand for reform in the TVET sector in a number of countries, as reflected in a range of legislative measures and reports (RSA, 2006a; RSA, 2008; GoG, 2004; NBTE, 2011). TVET is widely recognised as a sector capable of providing much-needed skills and competencies for employment, poverty alleviation, job creation, and economic, technological and national development (UNESCO, 2001; Fien & Wilson, 2005; Maclean, 2005), and able to respond to the needs of the industry (African Union, 2007; Okoye & Chijioke, 2013).

The TVET policies in each of the identified countries under study have been developed in peculiar historical, political and socio-economic contexts which have subsequently resulted in significant variations across each country. Similarly, the implementation contexts are also considerably different, again with varying degrees of success. Sections 1.10, 1.11 and 1.12 provide a detailed account of the policy development context in each country.

Selection of South Africa, Ghana and Nigeria for this study was based on a number of reasons. First, South Africa has several TVET transformation plans and strategies, which can

serve as a basis for TVET development and improvement in other countries, as comparative study provides an opportunity for identifying best practices for policy improvement. Such plans and strategies in South Africa include, among others, South African Qualifications Authority Act; Education White Paper 4-A programme for the transformation of FET; Further Education and Training Act, 1998; Skills Development Act 1998; National Skills Development Strategy 2001-2005; National Skills Development Strategy 2006-2010; Accelerated and Shared Growth Initiative South Africa (AsgiSA); Promulgation of the FET Colleges Act and National Plan for Further Education and Training (FET) Colleges (RSA, 2008). Comparison of such laudable and developmental plans, strategies and policies with similar plans and policies from other countries would provide insight for policy improvement and renewal.

Secondly, South Africa and Nigeria are among African countries with fast growing economy evidenced by high Gross Domestic Products (Wikipedia-free encyclopedia, 2014). Grouping South Africa and Nigeria in the same group of economic growth by virtue of Gross Domestic Product also motivated me to include the two countries in the study.

Inclusion of Ghana in the study was informed by the special focus of the technical and vocational education and training system in Ghana towards competency-based education and training delivery. This would provide an insight into the competency-based education and training approach with the view to providing policy options to TVET policy developers.

As a Nigerian, working in this sector, I am particularly interested in applying the insights that this study has revealed towards TVET policy renewal in Nigeria.

The purpose of this study is thus to compare the TVET policies of the identified countries with a view to understanding the nature of the policy-making context, the policy implementation context with a view to initiating policy reformulation (renewal) in my country.

Comparative study is essential for improving practice and for providing insight during a policy reform and development processes (Vos & Brits, 1990; Kubow & Fossum, 2007). Findings from this study are intended to be of use in policy renewal and development.

Provision of relevant knowledge, skills and competencies requires a responsive TVET system, which depends in turn on well-established and responsive TVET policy (UNESCO, 2010; Afeti, 2009). In this regard, a reform process in one country can gain much from a comparative understanding of policies with the same goals and objectives in other countries – a point taken up by Lauglo (2006) in commenting on the need for research to inform policy development and improvement. Any education and training system based on poor and weak policy would be negatively affected, and a case in point could well be the negative societal perception of TVET in certain countries, potentially attributable to poor TVET policy reducing the sector's appeal (Boateng, 2010).

From my experience as Deputy Provost of a College, Dean of School, Head of Department, and Polytechnic and College lecturer in Nigeria at various times since 1990, I have noticed that the future of TVET was shadowed by uncertainty due to societal perceptions and attitude towards the sector. As the Chairperson of the admission process of the College during my tenure as Deputy Provost I was sharply aware that admission to the TVET programmes kept falling year on year. From my interactions with parents and students, I realised that most people perceived TVET as a sector for students who could not make it to universities. Some students indicated however that what discouraged them in the TVET programmes was the presence of science- and engineering-based subjects like technical drawing, mathematics and physics – a view that, interestingly, seems to run counter to the perception that TVET programmes are designed for the less intelligent learners.

This study was informed, therefore, by the need for a responsive TVET policy capable of improving the image and status of the TVET sector and providing equal access to knowledge, skills, competencies and attitude necessary for employment and job creation. The requisite skills and competencies should extend to agricultural, commercial, industrial, national and economic development, and also respond to the demands of the market nationally and internationally.

This is accordingly a cross-national comparative study which compares TVET policies of South Africa, Ghana and Nigeria. Comparative study is essential for improving practice and for providing insight during a reform process (Vos & Brits, 1990; Kubow & Fossum, 2007), and the study was therefore designed to explore, analyse and compare the TVET policies of the selected African countries with the view to determining their similarities and differences.

The findings from this study are intended to be of use in the ongoing development and improvement of national policies for TVET.

1.5   Significance of the study

Lauglo (2006, p. 17) asserts that ―policy can be usefully informed by comparative research on experience with new models which have been tried out in other countries". With the clamour for internationally recognised TVET provision (COTVET, 2012), this study seeks to uncover weaknesses and highlight strengths in TVET policies that would help to bring them in line with international standards (Vos & Brits, 1990; Aggarwal & Gasskov, 2013; Kubow & Fossum, 2007). Policy gaps and deficiencies thus identified would help to energise moves for improvement or reformation in the system (Vos & Brits, 1990, Hantrais, 1995). The significance of the study lies in its provision of insight to inform policy improvement and development in an African context.

1.6   Research questions

The following research questions guided the study:

1. What are the principal features of technical and vocational education and training policies in South Africa, Ghana and Nigeria?

2. How and why do the principal features of technical and vocational education and training policies in South Africa, Ghana and Nigeria coincide or differ?

3. How is the technical and vocational education and training policies experienced by TVET practitioners in these identified country contexts?

1.7   Research design and methodology

Different studies are guided by different designs, based on their purposes and research paradigms (Woldetsadik, 2012; Knafl & Howard, 1984). Research design is considered to be a framework for study which serves as a link between research questions and implementation (Durrheim, 2006). Research design, according to Gravetter and Forzano (2009), is a comprehensive plan for carrying out a research and indicates whether the study will include comparison, groups, or individual participants. The study analysed and compared the TVET policies of the selected African countries. In relation to its design, exploring, understanding, interpreting and making sense of the contents of the policy documents puts the study in the

category of qualitative, interpretive research (Denzin & Lincoln, 2011), while comparing the TVET policies of the selected countries puts the study in the category of comparative research (Fitzgerald and Dopson, 2009; Gravetter & Forzano, 2009). The design for the study is thus qualitative comparative research.

Research methodology is generally informed by the research paradigm (Cohen, Manion & Morrison, 2011), the research purpose and the research questions. In view of the focus, the research design and the research questions, cross-national comparative methods (Halls, 1990; Hantrais, 1999) employing qualitative research (Remler & Van Ryzin, 2011; Guba & Lincoln, 1994) have been used for the study. The research focused on analysis and comparison of TVET policies of the selected African countries. Data for the study was collected through document analysis and interview, which requires direct involvement of the researcher in data collection and thereby makes the researcher an instrument for both data collection and analysis (Kaplan & Maxwell, 2005).

Data analysis in qualitative study includes coding, grouping, categorisation and abstraction (Elo & Kyngäs, 2008). Coding, according to Remler and Van Ryzin (2011), involves labelling, organising and categorising data. Weitzman (2000) similarly notes that coding involves labelling parts of text. Coding refers to identifying and grouping parts of data that have the same meaning or explain the same concept. To facilitate my analysis generally and the coding process in particular, NVivo software package was used. NVivo is a software package developed to facilitate qualitative analysis process (Cohen, Manion & Morrison, 2007). It facilitates the coding process and assists in organising data for analysis (Richards, 1999; Brewin, Renwick & Schormans, 2008).

1.8   Ethical considerations and trustworthiness

Ethical issues were considered throughout the research process. Ethical considerations include protecting the rights and privacy of all research participants (Gravetter & Forzano, 2009) and maintaining confidentiality (Remler & Van Ryzin, 2011). Because this study employs the qualitative research convention, trustworthiness of the study would be established through credibility, transferability, confirmability and dependability (Lincoln & Guba, 1985; Guba, 1981).

1.9   Areas of study

This research study was limited to the identification, exploration, analysis and comparison of the TVET policies of South Africa, Ghana and Nigeria.

1.10   Overview of TVET in South Africa

1.10.1   Skills Development in South Africa

The demand for skills necessary for employment and socio-economic development created the demand for some form of technical and vocational education and training in South Africa. The railways and mining took the lead in initiating technical education at various places in the country (Barnes, 2004). As the railway system developed, they required artisan labour which was unavailable and, in order to train artisans, the railway management instituted the apprentice system (Barnes, 2004).

Training of mining engineers started at the South African College (now University of Cape Town) (Barnes, 2004). The course comprised of two years theoretical training, followed by two years practical training at the South African School of Mines, which was established at Kimberley. In 1903 this school was transferred to Johannesburg and renamed the Transvaal Technical Institute (TTI). This school extended its activities and became an independent institution, the Witwatersrand Technical College with branches spread over the Witwatersrand from Springs to Krugersdorp and from Vereeniging to Witbank. In 1910 the TTI became part of the School of Mines and Technology, which was incorporated into the University of the Witwatersrand in 1922 (Behr, 1988). These beginnings of technical and commercial education and training laid the foundation for technical and vocational education in South Africa (Barnes, 2004).

Akoojee, Gewer and McGrath (2005) note that technical and vocational education and training system in South Africa is greatly influenced by the history of apartheid government. During the apartheid era, provision of technical and vocational education and training was guided by the apartheid system and was not accessible to all citizens. While explaining the provision of vocational education and training during the apartheid regime, Mummenthey (2010) notes:

> [T]he only established workplace-based training (VET) system, which existed, was the apprenticeship system of the 1920s (Apprenticeship Act of 1922). At the time it was a racially defined training system reserved purely for the white segment of the South African population. Traditionally, the apprenticeship system was South Africa's major pathway for intermediate skills development, and thus the qualification of white artisans for some major industry sectors.

Non-Whites were deprived the opportunity to access skills necessary for employment as Barnes (2004, p. 29) notes that ‒under the apartheid laws, access for non-whites to technical college education was very difficult, because non-whites were not allowed to enter trades". In a situation where all citizens were allowed to access technical and vocational education and training, the colleges were separated along racial boundaries as Barnes (2004, p. 28) states:

> The three technical colleges in Kimberley: the Northern Cape Technical College, R.C.Elliott Technical College and Moremogolo Technical College were established for white, coloured and black students respectively, as determined by the Apartheid Laws that separated and compartmentalised people along racial lines in all areas of life, including education

Education and training opportunities including the quality of training were not of the same standard under the apartheid regime. The training legacy of the apartheid system contributed to shortage of skills development in the Republic of South Africa (Badroodien, 2003).

Following the establishment of a democratically elected government in 1994, the post-apartheid South African government ‒ushered in a period of wide-scale reform of public policies, amongst which were reforms to the country's education and training systems" (Ngcwangu, 2014, p. 151). These reforms were proposed to redress the historical imbalances including the development, improvement and provision of technical and vocational education and training.

1.10.2 Post-Apartheid Technical and Vocational Education and Training Provision

Technical and vocational education and training system underwent drastic reform in the Republic of South Africa following the dissolution of apartheid regime in 1994. Mummenthey (2010, p. 9) notes that

> Since the advent of democracy in 1994 South Africa has made significant gains and progress in overcoming the skills development legacy of its past. But despite this progress, low levels of skills among the majority of the formerly disadvantaged population and stubbornly high unemployment rates, especially among youths (age

15-24), still remain one of the country's most pressing concerns and greatest impediments towards a better future for all.

In a move to provide equal opportunities for skills development and acquisition in South Africa, the democratically elected government started overhauling the education and training system including technical and vocational education and training sector in 1995. At that time, vocational and technical system comprised of 152 technical colleges situated in different education departments, which were governed, managed and funded in different ways based on apartheid planning (RSA, 2008). The challenge of the democratically elected government was to transform the racially-divided technical colleges into a coherent system capable of addressing the vocational education and training needs of the 21st Century.

The first step in the transformation of technical and vocational education and training by the democratically elected government was the establishment of a single National Qualifications Framework (NQF) in 1995, with the view to promoting the integration of the education and training systems under the auspices of the South African Qualifications Authority (SAQA) (RSA, 2008). This was followed by the establishment of the National Committee on Further Education (NCFE) in September 1996, which was mandated to investigate the problems relating to Further Education and Training and to make recommendations for its transformation.

The report of the NCFE was published in August 1997 as _A Framework for the Transformation of FET in South Africa'. This framework provided the basis for the publication of a Green Paper for FET, a White Paper for FET and the Further Education and Training Act, 1998 (Act No 98 of 1998). The FET Act of 1998 guided and governed the development of the Further Education and Training Colleges in the period 1998 to 2006 (RSA, 2008).

In 2000, a National Landscape Task Team was established to develop a plan for the re-organisation of the sector based on agreed criteria and nationally agreed goals and objectives. The recommendations of the Task Team were published in July 2001 as _A New Institutional Landscape for Public Further Education and Training Colleges', which recommended the establishment of 50 public FET colleges from the 152 technical colleges.

Because education and skills have been recognised as vehicles for development in the Republic of South Africa (Akoojee, 2008b), and in an effort to improve the development and provision of skills, various government initiatives have been developed and implemented.

These include the Skills Development Act, 1998, which replaced the Manpower Act of 1951 (RSA, 2008). The Skills Development Act introduced learnerships and effectively signalled the expansion and modernization of technical and vocational education and training.

Technical and vocational education and training system in South Africa have undergone significant transformation from 1994 to date (Wedekind, 2010; Wedekind & Watson, 2012) including change of name. According to the Department of Higher Education and Training (RSA, 2013b), Further Education And Training colleges have now been renamed as Technical and Vocational Education and Training (TVET) colleges on the grounds that the new name gives a better reflection and definition of the nature and role of the system.

The Further Education and Training Colleges Act of 2006 (RSA, 2006a) recognises the need for restructuring and transforming of TVET programmes to enable the system to respond to human and economic development of the country. In terms of Government White Paper 4 (RSA, 1998a), further education and training (FET) comprises learning programmes that should be registered on levels 2 to 4 of the national qualifications framework, which would match with grades 10 to 12 in the traditional school system and N1 to N3 in the technical college system. The Government White Paper affirms that the mission of further education and training is to respond to the human resource needs of the Republic.

In South Africa, provision of TVET is regarded as a vehicle for redressing injustices stemming from the racialised and gendered access to skills development during the apartheid era, and for social development, and it is seen as a system capable of providing skills and competencies required for employment, technological, social and economic development (Akoojee, 2010; RSA, 1998a; RSA, 2008).

Education in the Republic of South Africa is divided into three bands: ―general education and training (GET), further education and training (FET), and higher education and training (HET)" (SACE, 2011, p. 3), with technical and vocational education and training in the FET band. In 2009, the Department of Education was split into the Department of Basic Education (DBE) and the Department of Higher Education and Training (DHET), and technical and vocational education and training was placed under the DHET (Simbo, 2012; SACE, 2011).

1.10.3   *Overview of Policies and legislation impacting on skills development in South Africa*

Skills development plans are designed to support economic and employment growth, social and national development. After developing strategic plans for the development of skills, mechanisms for implementation need to be introduced. One way a government can achieve its goals and objectives is by use of legislation (Willemse, 2002).

Policy and Legislative framework impacting on skills development in South Africa includes the following:

- South African Qualifications Authority Act No. 58 of 1995
- Further Education and Training Act (16 of 2006) (RSA, 2006)
- The Skills development Act 97 of 1998
- The Education White Paper 4 of 1998
- National Plan for Further Education and Training Colleges 2008
- White Paper for Post-School Education and Training 2013
- Accelerated and Shared Growth Initiative in South Africa (AsgiSA)
- Sector Education Training Authorities (SETAs)
- National Skills Fund (NSF)
- Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training (2013).

1.10.3.1   South African Qualifications Authority Act No. 58 of 1995

The South African Qualifications Authority is an institution established by law and tasked with the responsibility of overseeing the reconstructed and redeveloped education and training, which reflects the objectives of the National Qualifications Framework (NQF) (Willemse, 2002).

The mission of the South African Qualifications Authority is to ensure the development and implementation of a national qualifications framework which contributes to the full development of each learner and to the social and economic development of the nation at large.

The objectives of the national qualifications framework include creating an integrated national framework for learning achievements; facilitating access to, and mobility and progression within education, training and career paths; enhancing the quality of education

and training and accelerating the redress of past unfair discrimination in education, training and employing opportunities (RSA, 1995).

Other functions of the authority include formulating and publishing policies and criteria for the registration of bodies responsible for monitoring and auditing achievements in terms of such standards or qualifications.

The South African Qualifications Authority therefore ensures that a structure that supports and promotes the development of education and training that contributes to the full developments of the learner and the country is achieved.

1.10.3.2   The Further Education and Training Colleges Act 16 of 2006

The Further Education and Training (FET) Colleges Act No. 16 of 2006 was launched to provide for the establishment and regulation of further education and training colleges in South Africa. The functions of the Act (RSA, 2006a, p. 2) include:

> to provide for the regulation of further education and training; to provide for the establishment, governance and funding of public further education and training colleges; to provide for the employment of staff at public further education and training colleges; to provide for the registration of private further education and training colleges; to provide for the promotion of quality in further education and training; to provide for transitional arrangements and the repeal or amendment of laws; and to provide for matters connected therewith.

The FET Act (16 of 2006) (RSA, 2006a) seeks to create a national coordinated further education and training structure that aims at promoting co-operative governance and provides for programme based vocational and occupational training. The Act also seeks to reorganize and transform curricula and colleges to respond to the needs of the citizens, the economy and the nation at large. Furthermore, it seeks to provide access to further education and training and to workplaces; provides for the provision of globally recognized intermediate to high level skills and create conducive environment for effective teaching and learning.

The purpose of the Further Education and Training Act No. 16 of 2006 (RSA, 2006) include enabling students to acquire necessary knowledge, practical skills and applied vocational and occupational competence and furnish students with knowledge, skills and attitude necessary for employment, entry to specific vocation or trade or into a higher education institution.

1.10.3.3 National Plan for Further Education and Training Colleges 2008

The National Plan for Further Education and Training Colleges (2008) indicated that South Africa began overhauling the education and training system inherited from the apartheid

government in 1995. At that time, the vocational and technical component of the system consisted of 152 technical colleges located in various education departments and were governed and funded in different ways (RSA, 2008). The Plan indicated that the challenge at that time was to transform the existing racially-divided technical colleges into a coherent system capable of addressing the vocational education and training needs of the 21st Century.

According to the National Plan (RSA, 2008), the first step in the transformation of vocational education was the establishment of a single National Qualifications Framework in 1995 and followed by the appointment of the National Committee on Further Education (NCFE) in September, 1996. The report of the NCFE was published in August 1997 as *A Framework for the Transformation of FET in South Africa* (RSA, 2008). The Framework formed the basis for the publication, in quick succession, of a Green Paper for FET, a White Paper for FET and the Further Education and Training Act, 1998 (Act No 98 of 1998).

1.10.3.4   The Skills Development Act 97 of 1998

The Skills Development Act No. 97 of 1998 (RSA, 1998) was launched to provide an institutional structure to formulate and implement national, sector and workplace strategies to build up and advance the skills of the South African workforce and to incorporate those strategies within the National Qualifications Framework as reflected in the South African Qualifications Authority Act of 1995 (RSA, 1995). The Skills Development Act also aims at providing for learnerships that lead to recognized occupational occupations and also make funding for skills development through a levy-grant scheme and a National Skills Fund. Other aims include providing and regulating employment services and also providing for matters related to that.

The purposes of the Skills Development Act (RSA, 1998) are developing the skills of the South African workforce; improving the quality of life of workers, their prospects of work and labour mobility; improving productivity in the workplace; promoting self-employment and improving the delivery of social services. Other purposes of the Skills Development Act include increasing investment in education and training and to improve the return on that investment; encouraging employers to use workplace as an active learning environment; providing employees with the opportunities to acquire new skills; providing opportunities for new employees to gain work experience and to employ people who find it difficult to get jobs. The Act also seeks to encourage workers participate in learning programmes; facilitate employability of people previously disadvantaged by unfair discrimination and to redress

those disadvantages through training and education. Furthermore, the Act seeks to assist retrenched employees re-enter the workforce, assist employers find qualified people and provide and regulate employment services.

The Skills Development Act (RSA, 1998) states that the purposes of the Acts will be achieved through institutional and financial framework, which include the National Skills Authority; the National Skills Fund; skills development levy-financing scheme as contemplated in the Skills Development Levies Act; SETAs; provincial offices of the Department; labour centres of the department; accredited trade test centres; skills development institutes; Quality Council for Trades and Occupations; a skills development forum for each province; a national artisan moderation body and Productivity South Africa. Other means of achieving the purposes of the Skills Development Act include promoting partnerships between the public and private sectors of the economy and co-operating with the South African Qualifications Authority.

According to the Skills Development Act (RSA, 1998), the functions of the National Skills Authority include advising the minister on a national skills development policy, national skills development plan guidelines and on the implementation of the national skills development plan including the plan and criteria for allocation of funds from the National Skills Fund and any regulations to be made.

The Skills Development Act (RSA, 1998) indicates that Sector Education and Training Authority (SETA) need to be established by the Minister of Labour with a constitution for any national economic sector. The functions of the Sector Education and Training Authority include developing a sector skills plan within the framework of the national skills development strategy; implementing its sector skills plan by establishing learning programmes; approving workplace skills plans; allocating grants in the prescribed manner and in accordance with prescribed standards and criteria to employers, institutions and employees and monitoring education and skills development provision in the sector.

1.10.3.5   The Education White Paper 4 of 1998

The Education White Paper 4 (RSA, 1998a) states that Further Education and Training (FET), which includes technical and vocational education and training colleges, refers to learning programmes which are registered on the national qualifications framework (NQF) from levels 2 to 4, which will match grades10 to 12 in the traditional school system and N1 to N3 in the technical college system. The further education and training system is intended to

respond to the human resource needs of the Republic of South Africa. Institutions in the further education and training system will offer range of programmes that will promote the development of skills, knowledge, attitude and values required for employment and economic growth. It was also envisaged that the system will train and provide intermediate to higher-level skills and competencies necessary for global economic competition in the 21st century. The White Paper indicates that the further education and training system was recognized as a system with the capacity to provide economic, social and civic development.

According to the Education White Paper 4 (RSA, 1998a), relationship between school, college and employers will be improved and promoted. Education and training opportunities including access to higher education will be encouraged. Counselling services on how to access programme funding through the Sector Education and Training Authorities and the National Skills Fund will be offered. The document notes that delivery of both theory and practice will be encouraged as this will facilitate the understanding of skills development processes. In addition to skills and competences, employers of labour also require communication and human relation skills.

The White Paper also provides for identifying the training needs in the labour market. The further education and training policy outlines a framework which provides a strategy for training institutions that allow them to respond to the demands identified by private and public employers.

1.10.3.6   White Paper for Post-School Education and Training 2013

The White paper for post-school education and training seeks to provide a vision to be achieved by 2030 for post-school education and training system in the republic of South Africa. According to the White paper, the post-school includes all education and training provision for those who have completed school, those who did not complete their schooling, and those who never attended school, and consists of the following institutions and fall under the purview of the DHET:

- 23 public universities (with two more being established in 2014);
- 50 public technical and vocational education and training (TVET) colleges (formerly known as further education and training [FET] colleges;
- Public adult learning centres (soon to be absorbed into the new community colleges);
- Private post-school institutions (registered private FET colleges and private higher education institutions, also to be renamed TVET colleges);

- The SETAs and the National Skills Fund (NSF);
- Regulatory bodies responsible for qualifications and quality assurance in the post-school system – the South African Qualifications Authority (SAQA) and the Quality Councils.

The White paper establishes plans to improve the capacity of the post-school education and training system to meet the demands of the Republic of South Africa. The major policy objectives of the White paper include a post-school system capable of building a fair, equitable, non-racial, non-sexist and democratic South Africa; a centrally coordinated post-school education and training system; increased access to quality programmes; effective collaboration between institutions and workplaces and development of a post-school education and training system that is responsive to the needs of all South Africans, the economy and all employers.

The White paper for the Post-School education and training (RSA, 2013b) states that the highest priority of the Department of Higher Education and Training is to strengthen and expand the public technical and vocational education and training (TVET) colleges and make them attractive. Areas to be strengthened and improved include management and governance, improving the quality of teaching and learning, developing programmes that are responsive to the needs of community and local markets and improving student support services and infrastructure. The White paper further notes that partnerships with employers will be emphasized both at system level and that of individual college.

1.10.3.7 Accelerated and Shared Growth Initiative in South Africa (AsgiSA)

The Accelerated and Shared Growth Initiative for South Africa (Asgisa) is a strategy aimed at reducing unemployment and poverty, accelerating employment equity and improving economic development and empowerment (Akoojee, 2008b), among others. The Accelerated and Shared Growth Initiative for South Africa (Asgisa) indicates that the major challenge for South Africa is shortage of skills ranging from engineers, scientists, financial and project managers, artisans and information technology (Jooste-Mokgethi, 2013). Shortage of skills in South Africa is attributed to apartheid policy of racial discrimination in education and training (Jooste-Mokgethi, 2013).

Bottlenecks to achieving higher economic development and growth, as identified by AsgiSA include:

- The volatility and level of the currency
- The cost, efficiency and capacity of the national logistics system
- Shortage of suitably skilled labour amplified by the cost effects on labour of apartheid spatial patterns
- Barriers to entry, limits to competition and limited new investment opportunities
- Regulatory environment and the burden on small and medium businesses
- Deficiencies in state organisation, capacity and leadership (Democratic Alliance, 2007, p. 4).

Interventions aimed at addressing the skills shortage include achieving higher levels of literacy and numeracy in the early grades of school; increasing mathematics and science high school graduates by 2008; upgrading career guidance programmes; upgrading technical and vocational education and training (TVET) colleges and expansion of adult basic education and training (ABET) programmes (McGrath & Akoojee, 2007).

Other interventions identified for the accelerated shared growth initiative for South Africa (AsgiSA) include infrastructure programmes, which concerns increasing public sector investment; sector investment strategies, which focuses on business process out-sourcing and tourism; second economy interventions, which includes interventions in the first economy; and public administration issues, which indicates concern with improving the capacity of departments at all levels to deliver on economic and social objectives (Democratic Alliance, 2007; McGrath & Akoojee, 2007).

1.10.3.8 Sector Education Training Authorities (SETA)

Recognising the dire need to develop and improve skills development, the South African Parliament ratified the Skills Development Act in 1998, which defined a new Sector Education Training Authority (SETA) system. The plan was to develop a series of sector skills plans within a clearly defined framework of the national skills development strategy. SETAs are expected to promote and facilitate the delivery of sector-specific skills interventions that help achieve the goals of the national skills development strategies and coordinate the skills needs of employers (RSA, 2014).

The functions of the Sector Education Training Authorities include:

> ➢ Developing a sector skills plan within the framework of the national skills development strategy;

> ➢ Implementing sector skills plan by establishing learning programmes; approving workplace skills plans and annual training reports; allocating grants in the prescribed manner and in accordance with any prescribed standards and criteria to employers, education and skills development providers and workers; and monitoring education and skills development provision in the sector;

> ➢ Promoting learning programmes by identifying workplaces for practical work experience; supporting the development of learning materials; improving the facilitation of learning; and assisting in the conclusion of agreements for learning programmes (RSA, 1998).

SETA is also expected to collaborate with the National Skills Authority on national skills development issues. Composition of the sector education training authority includes relevant government departments, organised labour, organized employers and interested professional bodies; and source of finance include skills development levies, national skills fund, grants, donations and services rendered (RSA, 1998).

1.10.3.9 National Skills Fund (NSF)

The National Skills Fund (NSF) was established in 1999 in terms of the Skills Development Act, 1998 to support the implementation of the National Skills Development Strategy (NSDS) (RSA, 2006). It was also meant to meet the training needs of the unemployed, non levy-paying cooperatives, NGOs, community structures and vulnerable groups (RSA, 2014). The National Skills Fund is intended to respond to the development of skills for economic growth and employment as well as complement resource shortages for national priorities.

Areas of priorities for the National Skills Fund include:
- Priorities that advance the Human Resource Development Strategy
- Priorities identified by the minister after consultation with the National Skills Authority
- Projects that are in alignment with the National Skills Development Strategy and support the new economic growth path, the Industrial Policy Action Plan, rural development, skills to support the green economy, and skills development in

education and health, and that contribute towards capacity building and skills development for institutions dedicated to the fight against crime and corruption, as key priorities of government (RSA, 2014).

The NSF is primarily funded from 20% of levies collected from employers in terms of the Skills Development Levies Act, which is used to support national skills development strategies and other national priorities (RSA, 1999). The Skills Development Levies Act (RSA, 1999) established a compulsory levy scheme for the purpose of training as envisaged in the Skills Development Act (RSA, 1998). The Skills Development Levies Act (RSA, 9999) indicates that every employer must pay a skills development levy at a rate of 0,5 per cent of the leviable amount from 1 April 2000, and one per cent from 1 April 2001.

1.10.3.10 Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training

Having recognized the critical role of technical and vocational education and training lecturers in the development and provision of skills and knowledge required for socio-economic development and employment in the Republic of South Africa, a policy on professional qualifications for the TVET lecturers have been provided and approved. The policy serves as a guide and contributes to the training and development of knowledgeable and competent lecturers through the provision of appropriate higher education qualifications that can be used for the professional and post-professional development of TVET lecturers (RSA, 2013a).

The policy on professional qualifications for lecturers in TVET is intended to strengthen the quality of teaching and learning with the view to providing responsive technical and vocational education and training system; a system with the capacity to provide skills for socio-economic development and for employment and self-reliance, which leads to poverty alleviation.

The various qualifications indicated in the policy on professional qualifications for lecturers in TVET apply specially to technical and vocational education and training lecturers (RSA, 2013a). Selected qualifications for technical and vocational education and training lecturers are indicated in the table below.

Table 1-1: Qualifications selected for lecturers in TVET (RSA, 2013a, p. 13)

NQF Level	Degrees	Diplomas	Certificates
10	Doctorate (360 credits)		
9	Master of Education (180 credits)		
8	Bachelor of Education Honours (120 credits)	Postgraduate Diploma in Technical and Vocational Education and Training (120 credits)	
7	Bachelor of Education in Technical and Vocational Teaching (480 credits)	Advanced Diploma in Technical and Vocational Teaching (120 credits) Advanced Diploma in Technical and Vocational Education and Training (120 credits)	
6		Diploma in Technical and Vocational Teaching (360 credits)	Advanced Certificate in Technical and Vocational Education and Training (120 credits)

The policy on professional qualifications for the lecturers in technical and vocational education and training will be used by different departments and agencies. Department of Higher Education and Training (DHET) (RSA, 2013a, p. 5) will use the policy for the following:

> to evaluate professional TVET lecturer education qualification programmes submitted by public higher education institutions for approval for inclusion in their programme and qualifications mix (PQM) and therefore for funding… to evaluate professional TVET lecturer qualification programmes submitted by private higher education institutions for registration, enabling them to offer the programme… to evaluate professional qualification programmes for employment as a lecturer in institutions under the jurisdiction of the DHET that offer TVET.

The policy will also be used by the Council on Higher Education's (CHE) Higher Education Quality Committee (HEQC) for accreditation and quality assurance processes. The policy will be used to regulate TVET lecturer qualification programmes offered by all types of institutions and as a requirement for registration with a professional council for TVET lecturers (RSA, 2012). The policy on professional qualifications for lecturers in technical and vocational education and training provides that TVET lecturers need to be competent and knowledgeable in both practical and theory and TVET curriculum programmes reviewed as workplace demands changed.

1.10.3.11   Synthesis of Skills Development in South Africa

The emergence of democracy in the Republic of South Africa in 1994 marks the beginning of a new order in the development of skills required for economic, social and national development as well as employment and poverty alleviation. The democratic government at that time was faced with the transformation of not only the political structures, but had also to ensure that educational, social and economic aspirations were responded to (Akoojee, 2008b). Problems inherited from the apartheid government that hinder economic, social and national developments have to be addressed. Important challenges facing the current national development include inequality, poverty and unemployment in South Africa (Akoojee, 2008b).

The development and provision of technical and vocational education and training in South Africa have been greatly influenced by the social and economic policies of apartheid regime (Akoojee, Gewer & McGrath, 2005; McGrath & Akoojee, 2007). Apartheid's legacy to the democratic South Africa included economic inequality, poverty, restricted employment and low-quality skills development (Seekings, 2007). Poverty is rooted in unemployment as Seekings (2007, p. 15) laments:

> … low-quality schooling, poor links into urban and industrial labour markets, and the growing capital-intensity of production in most economic sectors resulted in the growth of unemployment among unskilled workers and of mass poverty among them and their dependents.

Skills development has been recognized as a viable tool for meeting both social and economic aspirations in South Africa (Akoojee, Gewer & McGrath, 2005; RSA, 1998). Aspirations to develop and provide skills necessary for economic and social developments

have led to legislative approvals of skills development laws and initiatives, which include Skills Development Act No. 97 of 1998 (RSA, 1998), National Skills Fund (NSF) and Accelerated and Shared Growth Initiative in South Africa (AsgiSA) (RSA, 1998; McGrath & Akoojee, 2007) among others. The Accelerated and Shared Growth Initiative for South Africa (AsgiSA) envisaged achieving the goals of halving poverty and unemployment rates and facilitating equity in employment through improved economic empowerment and growth rate. Post-Apartheid reforms in the education and training system are mechanisms to address injustices perpetuated during apartheid regime as the education and skills of new entrants to the labour force are of great importance in shaping the ways that inequalities evolve over time (Seekings 2007).

Poverty, inequality and unemployment have negative impact on economic and national development as there is strong relationship between them in South Africa (McGrath & Akoojee, 2007). Inequality in employment, education and training, perpetuated by the apartheid policy, is one of the challenges threatening social, economic and national development in South Africa. McGrath and Akoojee (2007, p. 423) note that ―the country‗s level of inequality, however, is amongst the worst in the world". Inequality in education and training contributed to the shortage of skilled workforce, which affects the economic development of the country. Qualified and skilled workforce is in short supply. People were not given the opportunity to acquire skills necessary for employment and economic development. McGrath and Akoojee (2007, p. 423) assert that ―part of the explanation for high unemployment in South Africa is that economic growth has not been high enough over the last 30 years". Equal access to quality education and training at all levels will provide the necessary skills, competence and knowledge required to strengthen and improve the South African economy.

1.11   Overview of TVET in Ghana.

Technical and Vocational Education and Training (TVET) in Ghana has undergone various reforms since its introduction into the mainstream of the education and training system. Policies, legislative Acts and strategies impacting on the development, improvement and provision of technical and vocational education and training in Ghana include 2004 Draft TVET Policy (GoG, 2004), National Vocational Training Institute Act No. 351 of 1970 (GoG, 1970; Baffour-Awuah & Thompson, 2012); National Telecommunications Policy;

Accelerated Development Plan for Education; and the enactment of the Council for Technical and Vocational Education and Training (COTVET) Act (718) of 2006 (COTVET, 2012).

The National Vocational Training Institute (NVTI) was established in Ghana in 1970 and charged with the responsibility of nationwide coordination of all aspects of technical and vocational education and training (Baffour-Awuah and Thompson, 2012). The functions of the National Vocational Training Act, No. 351 of 1970 (GoG, 1970,

p. 2) include:

> (a) to organise apprenticeship, in-plant training and training programmes for industrial and clerical workers, and to train the instructors and training officers required for that purpose;

> (b) to provide for vocational guidance and career development in industry;

> (c) to develop training standards and trade testing;

> (d) to initiate a continuing study of the country's manpower requirements at the skilled worker level;

> (e) to establish and maintain technical and cultural relations with international organisations and other foreign institutions engaged in activities connected with vocational training.

Following the inability of NVTI to effectively coordinate the sector, National Coordinating Committee on Technical and Vocational Education and Training (NASVET) was established in 1990, which was also mandated to coordinate national skills development system, both formal and informal (Baffour-Awuah & Thompson, 2012). Commenting on the inability of the various agencies to effectively coordinate and regulate skills development in Ghana, Baffour-Awuah and Thompson (2012, p. 20) state:

> NVTI's failure as a coordination body can largely be traced to it being diverted from coordination functions to becoming another provider of training through a network of NVTI institutes. NACVET largely failed due to the fact that it never had an Act of Parliament to back up its actions. Furthermore NACVET has little capacity and almost no technical and managerial experience in the area of vocational training. NACVET effectively ended its days as an entity that set secretarial examinations and examinations for Farm Institutes.

Technical and vocational education and training in Ghana is delivered by various departments, ministries and agencies. These ministries and agencies include Ministries of Employment and Social Welfare, Agriculture, Local Government and Rural Development, Trade and Industries, Transport and Communication. The delivery of TVET in Ghana has therefore been governed by separate ministerial mandates and the informal sector also operates with their own conditions. At the tertiary level, the various institutions also operate with their mandates as determined by their Acts through their Councils and Academic Boards (COTVET, 2012).

1.11.1   Ghana Draft TVET policy (2004)

Recognizing the role of technical and vocational education and training for socio-economic and political development in Ghana, a Committee was set up in 1997 to review and update the technical and vocational education and training policy of the country. The Committee produced the first draft of TVET Policy document after a series of consultations and workshops in July, 1999 (GoG, 2004).

In 2000, a Task Force was set up to consider the 1999 draft TVET policy and to identify sections that require adjustment with the view to creating a policy framework for the development of a comprehensive, flexible and dynamic system of technical and vocational education and training in Ghana. After series of consultations, sub-committee discussions and workshops, technical and vocational education and training policy was approved in 2004 (GoG, 2004).

The mission of Ghana's TVET system is to improve productivity and competitiveness of the skilled workforce and to raise the income-earning capacities of people, especially women and low income groups, through the provision of quality-oriented, industry-focused, competency-based and lifelong learning training programmes and complementary services (GoG, 2004).

The 2004 Ghana TVET policy sought to integrate the different types of technical and vocational education and training provision in the formal and non-formal sectors and from elementary to the tertiary level into one comprehensive demand-driven system. Integrating the TVET sectors was intended to be achieved through instituting an apex management body, Council for Technical and Vocational Education and Training (COTVET), which would be responsible for policy formulation, coordination, rationalization of assessment and certification (Baffour-Awuah & Thompson, 2012; GoG, 2004).

The formulation of Ghana's technical and vocational education and training policy was guided by the following principles:

❖ Skills training should be continuous and ensure both vertical and horizontal mobility within the delivery system and the productive economy for effectiveness

❖ Training should deliver a package which includes technical/vocational and entrepreneurial skills as well as the ability to access Information and Communication Technology for relevance to a globalizing economy

❖ No public or formal system can perform these functions adequately for the large number of people who need them, unless it is complemented by private industry as well as informal apprenticeship systems of skills provision

❖ The involvement of the private industry and informal sector will not only enlarge access and enable the replacement of obsolete training equipment and human resource, it will inject a demand-driven awareness into the entire system and promote self-employment

❖ Establishment of a unified National Certification System for ensuring quality and standardization (GoG, 2004, p. 5-6).

Imperatives that require the formulation and implementation of a comprehensive technical and vocational education and training in Ghana include democracy, poverty reduction and economy (GoG, 2004).

1.11.2   *Council for Technical and Vocational Education and Training (COTVET)*

Following the recommendations in various government policies and reports for the establishment of a regulatory body for TVET, council for technical and vocational education and training (COTVET) (COTVET, 2012) was established by an Act of Parliament with statutory responsibility for coordinating, regulating and supervising TVET provision and development in Ghana (Akplu & Amankrah, 2008). Other functions of the council include formulating national TVET policies, sourcing of funds to support the sector and rationalising assessment and certification in the sector (Baffour-Awuah & Thompson, 2012).

The key executing committees under the Council include National TVET Qualifications Committee (NTVETQC), Industrial Training Advisory Committee (ITAC), and the Training Quality Assurance Committee (TQAC). Others are National Apprenticeship Committee (NAC), and the Skills Development Fund (SDF) Committee. (GoG, 2004; COTVET, 2012).

The reform in the TVET sector is intended to give the system a demand-driven, competency-based training orientation, making it an avenue for poverty reduction and job creation, and bringing it in line with international standards (COTVET, 2012; Ansah & Ernest, 2013). Competency-based training (CBT) is an industry- and demand-driven approach (Anane, 2013) in which TVET providers develop and offer programmes based on demands and needs of industry and the labour market. CBT improves the quality and relevance of training by equipping individuals with skills and competencies required by the labour market (Boahin, Eggink & Hofman, 2013). Integrated into the CBT programme would be relevant supporting theory to underpin understanding and development of skills and competencies.

TVET delivery institutions in Ghana include technical institutes, farm institutes and vocational training institutes, which are equivalent to senior secondary schools and grades 10, 11 and 12 in the traditional school system. Other institutions that offer technical and vocational education and training in Ghana include polytechnics, universities and private tertiary institutions (COTVET, 2012). TVET is recognised as a viable instrument for youth empowerment, poverty alleviation and job creation (Baffour-Awuah & Thompson, 2012).

In an effort to develop and improve skills for high productivity, National Telecommunications Policy was adopted in 2004 with the view to providing high quality and affordable access to information and communication services to help transform Ghana into a knowledge-based society and technology driven economy. To achieve this, the government aims to promote information and communication technology (ICT) connection to all schools at an affordable price including technical and vocational education and training institutions. This was intended to be realized through equipping all educational institutions with computer equipment and ICT tools in a prioritized manner; equipping Computer Science and ICT Departments in public tertiary institutions to enable them produce skilled human capital to meet the requirements of industry; and introducing ICT into schools to cover teaching of ICT skills to all students. It will also include preparing students for ICT profession and enhancing teaching and learning through Information and Communication Technology (COTVET, 2012).

1.11.3 Skills Development Fund

In August 2006, the Government of Ghana by an Act of parliament (Act 718) established a Council for Technical and Vocational Education and Training (COTVET) to coordinate and oversee all aspects of technical and vocational education and training in the country (COTVET, 2012). One of the functions of the Council is to source funding to support technical and vocational education and training.

The establishment of Skills Development Fund is one of the mechanisms to ensure sustainable sources of funding for a responsive technical and vocational education and training system. Sources of funds for the Skills Development Fund include Government of Ghana and development partners, which include the World Bank (GoG, 2004; COTVET, 2012). The Council for Technical and Vocational Education and Training (COTVET) notes that member industries and businesses would contribute 1 percent of their total payroll, while labour unions and trade associations would contribute 0.5 percent (COTVET, 2012).

The Funds will be used to support the development and acquisition of technical and vocational education and training and strengthen skills development in Ghana (GoG, 2004; Ghana Business News (GBN), 2010). Other uses of the Funds include supporting proposals for developing new innovative models for delivery of training and new training concepts; supporting development of innovative entrepreneurship and basic management training concepts and supporting innovative proposals from training providers that respond to economic demand.

1.11.4 National Context of TVET in Ghana

Technical and vocational education and training in Ghana is delivered in different institutions under different ministries and agencies. Provision of skills by different providers with different standards contributed to the provision of poor quality and unresponsive skills that cannot drive the economy. The council for technical and vocational education and training was established to regulate all aspects of TVET in the country, with the view to providing high quality skills for economic development and employment (Baffour-Awuah & Thompson, 2012; COTVET, 2012).

The problem of quantity, poor quality and relevance of education and training needs immediate attention in Ghana. The quality of education and skills hampers Ghana's competitiveness and industry experiences shortage of skilled workers. Unresponsive skills

cannot develop and drive economy. The competency-based technical and vocational education and training delivery approach in Ghana is intended to provide skills necessary for economic development and employment (Anane, 2013; COTVET, 2012).

Unemployment, is predominantly an urban phenomenon, and heavily concentrated in the capital, with an unemployment rate in Greater Accra more than twice that of the rest of the country. In 2005 about one out of five unemployed workers resided in a poor household and is progressively becoming a serious issue for at least part of Accra's population, probably in part due to urban migration by relatively young workers. However, with the development and provision of employable skills, the proportion of the unemployed has decreased. Underemployment and unemployment are both problems in Ghana (COTVET, 2012).

Urban population in Ghana is rapidly increasing, with a corresponding increase in urban labour supply. This high rate of population growth and the rapid urbanization have yielded a large increase in new job seekers, especially in cities, and especially among the youth. This has implications for technical and vocational education and training (COTVET, 2012). Technical and vocational education and training is intended to provide the skills required by the growing population for employment and self-reliance.

1.12   Overview of TVET in Nigeria

Nigeria's National Policy on Education (FRN, 2004) recognises technical and vocational education and training as a viable system capable of providing skills necessary for agricultural, commercial and economic development, and as a means of preparing for occupational fields and effective participation in the world of work. The National Policy document (FRN, 2004, p. 30-31) states that the goals of technical and vocational education and training should be to

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

In recognition of the role of technical and vocational education and training for economic growth and in providing skills for self-sufficiency, Nigerian government established notable Boards and Agencies to oversee and support the development of technical and vocational education and training in the country. Notable Boards, practices and agencies that impact on the development and improvement of technical and vocational education and training include National Board for Technical Education (NBTE), National Vocational Qualifications Framework and Industrial Training Fund, among others.

1.12.1 National Board for Technical Education (NBTE)

The National Board for Technical Education (NBTE) was established through Act No 9 of 1977 (NBTE, n.d; UNESCO, 2011; Yakubu, 2009). The functions of the Board include:

- Advising the Federal Government on, and to co-ordinate all aspects of, technical and vocational education falling outside the universities and to make recommendations on the national policy necessary for the full development of technical and vocational education for the training of technicians, craftsmen and other middle-level and skilled manpower

- Determining after consultation with the National Manpower Board, the Industrial Training Fund and such bodies as it considers appropriate, the skilled and middle-level manpower needs of the country in the industrial, commercial and other relevant fields for the purpose of planning training facilities and in particular to prepare periodic master plans for the balance and co-ordinated development of polytechnics and colleges of technology and such plans shall include-

    a) The general programmes to be pursued by polytechnics and colleges of technology in order to maximise the use of available facilities and avoid unnecessary duplication while ensuring that they are adequate to the manpower needs of the country; and

    b) Recommendations for the establishment and location of new polytechnics and colleges of technology as and when considered necessary

- Inquiring into and advise the Federal Government on the financial needs, both recurrent and capital, of polytechnics and colleges of technology and other technical institutions to enable them meet the objective of producing the trained manpower needs of the country

- Receiving block grants from the Federal Government and allocate them to polytechnics and colleges of technology in accordance with such formula as may be laid down by the President

- Acting as the agency for channelling all external aid to polytechnics and colleges of technology in Nigeria;

- Advising and taking steps to harmonise entry requirements and duration of courses at technical institutions;

- Laying down standards of skill to be attained and to continually review such standards as necessitated by technological and national needs;

- Reviewing methods of assessment of students and trainees and to develop a scheme of national certification for technicians, craftsmen and other skilled personnel in collaboration with Ministries and organisations having technical training programmes;

- Undertaking periodic reviews of the terms and conditions of service of personnel in polytechnics and colleges of technology and to make recommendations thereon to the Federal Government;

- Collating, analysing and publishing information relating to technical and vocational education;

- Recommending to the Visitor of a polytechnic that a visitation be made to the polytechnic as and when it considers necessary; and

- Considering any matter pertaining to technical or technological education as may be referred to it from time to time by the Minister.

The enabling decree of the Board indicates that the Board should also collaborate with agencies and other relevant stakeholders to determine their human resource needs with a view to developing responsive programmes that would meet their skills needs (NBTE, 1993).

The NBTE recognises the need to improve the quality of TVET delivery and to bring coherence to technical and vocational education. To achieve this, the Board spearheaded the establishment of the National Vocational Qualifications Framework (NVQF), subsequently approved by the Federal Executive Council (NBTE, 2011).

1.12.2 *Imperative for Establishment of National Vocational Qualifications Framework in Nigeria*

National vocational qualifications framework (NVQF) is a system for the development, classification and recognition of skills, knowledge and competencies acquired by individuals regardless of how and where the training or skills was acquired (NBTE, 2011). The framework clearly indicates how one qualification compares with another. The National Board for Technical Education (NBTE) (2011, p. 39) states the imperative of national vocational qualifications framework to include:

i. Providing the much needed common denominator against which standards for graduation, job entry, career progression and remuneration could be gauged easily and fairly;

ii. Standardizing learning outcomes, competencies to be attained and demonstrated, as well as the technology adopted in skilled manpower development at the formal and non-formal levels;

iii. Strengthening linkage between vocational training sector on the one hand, and industry on the other;

iv. Providing convenient systems for assessment of prior experiential learning (APEL) achievements;

v. Expanding access to education and promoting lifelong learning; and

vi. Providing a system for up-skilling and re-skilling of youth and working adults.

National vocational qualifications framework facilitates progression between formal, informal and non-formal TVET sectors.

1.12.3 *Industrial Training Fund (ITF)*

Industrial Trust Fund was established by Decree No. 47 of 1971 with a view to promoting and encouraging the acquisition of skills necessary for industrial, commercial and national economic development. The Industrial Training Fund (Amendment) Act of 2011 (FRN, 2011) indicates that the fund shall be utilized to provide, promote and encourage the acquisition of skills in industry and commerce with a view to generating a pool of indigenous trained manpower sufficient to meet the needs of the private and public sectors of the economy; provide training for skills in management for technical and entrepreneurial development in the public and private sectors of the economy; set training standards in all sectors of the economy and monitor adherence; and evaluate and certify vocational skills acquired by apprentices, craftsmen and technicians in collaboration with relevant organizations.

As part of its statutory responsibilities, the industrial training fund offers research and consultancy services and administers the Students Industrial Work Experience Scheme (SIWES). The agency partners with industry and other employers to facilitate students' placement for practical experiences.

The Decree establishing the industrial training fund indicates that Sources of revenue include subvention from government, levy and contributions from employers. Talabi (2012) notes that employers were initially made to contribute 3% of their turnover, which was reduced to 2% by Amendment Decree No. 37 of 1973, which was further reduced to 1% in 1975.

TVET in Nigeria is offered in different types of institutions and at different levels. These institutions include technical colleges, polytechnics, colleges of education (technical) universities and other post-secondary institutions (FRN, 2004). With the introduction of 9-year compulsory basic education in Nigeria (UBEC, 2013), entry requirements into technical colleges would be based on student performance at the end of the 9-year basic education programme.

TVET in Nigeria faces a number of challenges, and the inability of the government to address these challenges compromises the quality of TVET delivery. These challenges include negative societal perception of the sector, inadequate teaching and learning facilities, dearth

of qualified teachers and supporting staff, poor implementation and lack of a comprehensive TVET policy to drive and guide the system (Moja, 2000; Uwaifo & Uddin, 2009).

1.12.4   Skills Development Context in Nigeria

Poverty, inequality and unemployment have been identified as serious challenges bedevilling Nigeria as a nation (Appleton, Mckay & Alayande, 2008). A study indicated that the proportion of people living below one dollar a day has increased to over 65 percent giving rise to inequality in the country (Appleton, Mckay & Alayande, 2008) with significant percentage of Nigerians living in absolute poverty (Aigbokhan, 2000).

Technical and vocational education and training in Nigeria is recognized as a system with the capacity to provide skills necessary for employment and for agricultural, commercial and economic development. Increase in agricultural and economic growth decreases unemployment thereby alleviating poverty (Ayinde, 2008).

Technical and vocational education and training in Nigeria has been recognized as an instrument for the development of human resources for socio-economic, technological and national development. It is recognized as a system that prepares individuals for effective participation in the world of work; provide skills for employment and poverty alleviation and for agricultural, commercial and economic development (FRN, 2004).

1.13   Challenges facing TVET globally

Notwithstanding the wide recognition and acceptance of TVET nationally and internationally, the sector is still confronted by numerous challenges (UNESCO, 2001) that have a long history. Policy makers, parents, students and teachers alike are inclined to regard the sector as providing essentially for those who lack the intellectual capacity to continue with the traditional schooling system or are unable to secure a place in the academic track (Ayalew, 2011; Oketch, 2007; Afeti, 2009; African Union, 2007). In some cases government policies on TVET are also to blame, with official documents referring to TVET institutions as an alternatives for learners who fail to gain a qualification because they were unable to complete their traditional secondary education (RSA, 2012). Afeti (2009) charges that governments add to the problems of the sector when they declare that its purpose is to keep dropouts off the streets, and that lowering of admission requirements for TVET institutions simply encourages the misconception that the sector is meant for students with inadequate academic capability.

The perception that TVET is for dropouts may account for the government neglect of the sector that many writers allege (Oketch, 2007). Enrolling for a TVET programme is seen as a dead end for the student (African Union, 2007; Atchoarena & Delluc, 2001; Afeti, 2009; Bose, 2008) because certificates and qualifications obtained from the sector do not give them entry to higher education, and this has negative consequences for the image and status of the sector as a whole (Bose, 2008; Yakubu, 2003b).

The low status and prestige of the sector (McGrath, 2005) extends also to the individual who has a TVET qualification (Osuji, 2003). Osuji contends that parents allow their children to enrol in technical and vocational programmes only when they have been unable to secure university admission. This is corroborated by Yakubu (2003b), who contends that most parents only consider polytechnic education once they have failed to obtain university admission. This, then, is how TVET comes to be regarded as a last resort, or dumping ground, for the academically disabled (Ayalew, 2011) – a sector ostensibly for less privileged, academically less endowed, second-class citizens, for low achievers and unmotivated learners (Alloway et al., 2004; Killian, Tendayi & Augustine, 2009).

Other challenges, in addition to skewed societal perceptions, that beset the sector include inadequate funding, inadequate teaching and learning materials, obsolete training equipment, outdated curricula, inappropriate delivery methods, inadequately qualified teachers, unqualified managerial staff, and lack of equipped libraries (Hamilton & Asiedu, 1987; Afeti, 2009; Osuji, 2003; Raimi & Akhuemonkhan, 2014; Awe et al., 2009; Ohiwerei & Nwosu, 2013, Amedorme & Fiagbe, 2013) Further shortcomings are inability of graduates to get employment, irrelevance of the training, and unresponsiveness of programmes to actual needs (Atchoarena & Delluc, 2001). Part of the problem is poor articulation between TVET institutions and higher education – a point made by Eilor (2008), who sees this as contributing factor in the lingering negative perception of the sector. Poor organisation, which denotes poor managerial skills and lack of qualified trainers, is another common flaw in TVET (Yihunie, 2011).

Commenting on the planning of TVET, Usman and Pascal (2009) suggest that failure in TVET programmes is chiefly attributable to inappropriate personnel representation during the planning. On this point, a recent African Union (2007) strategy paper notes that the TVET sector lacks qualified personnel to effectively and professionally drive the sector forward. Poor organisation and managerial skills can lead to fragmentation and lack of coordination

35

among institutions in the sector, which is a problem to which Yakubu (2003b) draws attention. Another problem noted in the African Union (2007) paper is irrelevant programmes being offered by TVET providers in certain countries that are not responsive to the needs of the students, the economy or the industries. Often, the focus in TVET is on massive supply-driven production of skilled people in one programme or another, regardless of whether the skills are actually required by the market (African Union, 2007). Likewise, the African Union cites frequently ineffective monitoring and evaluation mechanisms for review of TVET programmes by the programme providers for possible curriculum reform.

Imposition of fees to supplement the funding of TVET institutions is often a major obstacle for students, blocking their access to the institution or forcing them to abandon their courses and in all likelihood become a burden for the society. The DHET in South Africa cites this as a reason for low student enrolment in technical and vocational programmes, associated with further problems of low throughput and increased cases of dropout (DHET (RSA), 2012). Overall, there is concern that the quality of TVET programmes is low and that the sector lacks recognition and acceptance (RSA, 1998a).

1.14   Outline of the thesis

This thesis comprises eight chapters. This chapter (Chapter 1) introduces the topic, provides the purpose and rationale for the study and indicates the countries directly involved in the study. Background of the study is given in this chapter to provide essential information necessary for understanding the topic being studied. The chapter also provides an overview of TVET in the countries covered by the study.

Chapter 2 presents the literature review for the study. It presents each aspect of the research in relation to the addition it makes to the understanding of the topic under review (Booth, Papaioannou & Sutton, 2012). It begins by outlining the general concept of technical and vocational education and training (TVET), TVET policy, and issues of comparative education from national and international perspectives.

Chapter 3 provides an account of comparative study, the research design and methodology.

Chapter 4 analyses TVET policy in Nigeria as embedded in the broader national policy that governs the provision of education in Nigeria, with discussion confined to those elements of the National Policy that relate directly to TVET issues.

Chapter 5 discusses the review of TVET policy that is being undertaken in Ghana.

Chapter 6 presents a thematic analysis of TVET policy in South Africa as embodied in the National Plan for Further Education and Training Colleges. The analysis focuses on elements of the document that have a direct bearing on the conceptual framework for the study.

Chapter 7 presents a comparative analysis of the TVET policies of Nigeria, Ghana and South Africa, with reflections on and discussions of the findings that emerge. Comparative categories that emerged from the analysis of the policies are set out in a table for additional clarity.

Chapter 8 presents insights for TVET policy (policy learning), implications and concludes the study with remarks and recommendations.

Chapter 2
Literature Review

2.1　Introduction

The previous chapter presented a general introduction, giving the background of the study and an overview of TVET in South Africa, Ghana and Nigeria. It concluded by indicating the outline of the entire thesis. This chapter presents relevant literature pertaining to this study, together with the conceptual framework for the study. It will also provide

- a review of relevant policy literature,

- a discussion of how policy is understood in each context

- a discussion of the relationship between policy and practice,

- an account of how policy is enacted

- and an evaluation of how socio-political factors affect TVET implementation

2.2　Relevant Policy Literature

2.2.1.　Policy Theoretical and Conceptual Framework

Coning and Wissink (2011) reveal that policy has no universally agreed definition, theory or model. However, available framework of policy definitions and literature could provide a basis for developing a working definition. Ranney (1968, p.7) defines policy as ―a declaration and implementation of intent" while Baker, Michaels and Preston (1975) see policy as a mechanism employed to realise societal goals and for allocating resources. Ball (1990) refers to policy as statements of prescriptive intent and also as operational statements of values. Birkland (2014) defines policy as:

A statement by government, at whatever level, of what it intends to do about a public problem. Such statements can be found in the Constitution, statutes, regulation, case law (that is, court decisions), agency or leadership decisions, or even in changes in the behaviour of government officials at all levels.

Haddad (1995) explains that policy is an explicit or implicit single or group of decisions that would provide directives for guiding decisions, initiate or retard action, or guide implementation of previous decisions. Smith (1973, p. 202) notes that ―Government policies have been defined as deliberate action by a government to establish new transaction patterns or institutions or to change established patterns within old institutions". Generally, policy is a plan of action adopted by governments, organizations, individuals or businesses. It can be made in response to a problem that requires attention.

Policies are developed by governments at various levels (national, provincial, local), municipalities, schools, organizations and individuals. Policies developed by governments (national, provincial, local) and implemented through the government bureaucracies are referred to as ‗Public Policy' (Naicker, 2005). Technical and vocational education and training policies developed by national, provincial and local governments are public policies. Policies can be expressed and presented in different forms, for different purposes and for different departments. Harman (1984, p. 15) states that:

Public policy in any field including education can take different forms of expression and can be directed towards different ends. Some policy finds expression in ministerial statements or white papers; some policy is authorized through legislation or regulations, while other policy takes the form of a directive issued by a minister or senior official

Some policies aim to control or guide the provision of benefits like bursaries and scholarships.

Public policies are explored, examined, studied and analysed for various reasons. Coning, Cloete and Wissink (2011, p.33) state the following reasons for studying public policy:

- To gain better academic knowledge about and insight into public policy (scientific, descriptive, explanatory and predictive objectives)
- To improve policy processes, contents and outcomes (a combination of descriptive and prescriptive objectives)
- To influence or control policy processes and content in order to ensure the desired outcomes (prescriptive objectives).

2.2.2. Theories of Policy and Policy Analysis

Policies and policy development processes may vary from country to country. Coning, Cloete and Wissink (2011) assert that theories of policy and policy making are closely associated with each country's political goals and ideologies, where political values play a critical role. According to Coning, Cloete and Wissink (2011, p.34), theories designed to explain policy making processes include the following:

> ➢ *Classical theory* (also known as institutional theory) emphasises that the different concerns and interests of government should be given preference. This area of focus encompasses the classical doctrine of the separation of powers… and includes the legislative, executive and judicial functions.
> ➢ In *liberal democratic theory*, the political party assumes the position of primary force in policy making. The argument is that, because the party represents the individual voter, it is superior to interest groups.
> ➢ In *elite theory*… small elite groups usually lead a large group of followers.
> ➢ *Systems theory* focuses on the contributions to policy making of interrelated forces.

Hanekom (1987, p.46) notes that ―in practice a blend of the aforementioned theories is found, that is, to some extent all the theories referred to are embodied in policy making". Similarly, Kitschelt (1986) asserts that a satisfactory policy explanation will require more than one theory. This study is based on Classical and System theory which emphasize the contributions of various stakeholders in policy making and implementation. With classical theory of policy making, stakeholders of technical and vocational education and training (industry, community, government, teachers, learners, labour unions, private sector, etc) would have the opportunity to contribute to the development of the sector. Consensus leads to higher morale which is necessary for successful implementation; greater commitment and better understanding of any change and innovation (Gross, et al., 1971). Classical and system theory involves negotiation, bargaining and accommodation of several different interests. Types of policies include procedural policies, distributive policies, symbolic policies, Regulatory policies and redistributive policies (Naicker, 2005).

2.2.3. Categories of Public Policies

2.2.3.1 Material and Symbolic Policies:

Material policies are policies that give tangible resources to their beneficiaries. Material policies either empower people materially or inflict disadvantages on beneficiaries who are adversely affected. In contrast, symbolic policies have little material impact on beneficiaries.

Symbolic policies appeal to, or have impact on the cherished values of the beneficiaries such as peace, patriotism and social justice (Anderson, 2003).

2.2.3.2   Substantive and Procedural Policies

Substantive policies pertain to what government intends to do, and directly allocate advantages and disadvantages, benefits and costs, to the beneficiaries. In contrast, procedural policies pertain to how something is going to be done or who is going to take action. It includes laws providing for the creation of administrative agencies, determining the matters over which they have jurisdiction and indicating the processes and techniques that they can use in carrying out their programs (Anderson, 2003). Procedural policy provides procedures to be used in institutions, organizations and agencies and also provides who takes the actions.

2.2.3.3   Distributive, Regulatory, Self-Regulatory and Redistributive Policies

Distributive policies involve allocation of services or benefits to specific portions of the population, which may include individuals, groups and communities. This category of policies increase the freedom or discretion of the individuals, groups or agencies involved. Some distributive policies may provide benefits to one or more groups of beneficiaries. On the other hand, redistributive policies involve the allocation of benefits to the different classes or groups of people. Anderson (2003) states that regulatory policies impose restrictions or limitations on the activities of individuals and groups. Regulatory policies reduce the freedom of beneficiaries by regulating their activities. In this sense, they differ from distributive policies, which provide the freedom or discretion of the persons or groups affected. Self-regulatory policies are usually policies controlled by the regulated group as a means of protecting or promoting the interests of its members.

2.2.4   Policy Making Process

Dye (2011) indicates that policy making could be viewed as a step by step process, which overlap and intertwine. Policy making process, as identified by Dye (2011), includes the following:

- Problem identification: Problem identification step comprises identification and publicizing public problems and expressing demands for action from the government. This is majorly carried out by mass media, interest groups, citizen initiatives and through public opinion.
- Agenda setting: This stage of policy making process involves deciding on issues and problems to be addressed by the government.

- Policy formulation: Policy formulation stage involves developing policy proposals for resolving issues. Participants in this stage may include think tanks, president and executive office, congressional committees and interest groups.

- Policy legitimation: Policy legitimation includes selecting a proposal and developing political support for it, enacting it into law and deciding on its constitutionality.

- Policy Implementation: This stage of policy making process incorporates implementing approved policy by appropriate agencies and departments.

- Policy Evaluation: Policy evaluation includes evaluating impacts of policies on targets, reporting outputs of government programmes and proposing changes and reforms.

2.2.5 Policy Implementation

Once policy has been formulated and adopted, the next critical stage is implementation. Meter and Horn (1975) note that policy implementation encompasses those actions by public or private individuals (or groups) that are directed at the achievement of objectives set forth in prior policy decisions. Policy implementation comprises the actual delivery and action response to policy intent. Several people believe that once a policy has been formulated, it would definitely be implemented. This assumption, according to Smith (1973), does not hold in several third world nations and in some western societies. Smith (1973, p. 197) states that:

> Third World governments tend to formulate broad, sweeping policies, and governmental bureaucracies often lack the capacity for implementation. Interest groups, opposition parties, and affected individuals and groups often attempt to influence the implementation of policy rather than the formulation of policy.

Implementation of policy is seen as a process that creates tension in a society. The success and effectiveness of policy implementation vary from country to country. Unqualified staff, indiscipline and corruption could lead to poor policy implementation (Smith, 1973). Different policy implementation models exist, but I present and use the model proposed by Meter and Horn (1975) because it provides consideration on a theoretical basis and also shows the different variables impacting on policy implementation. Meter and Horn (1975) model of implementation is graphically shown below.
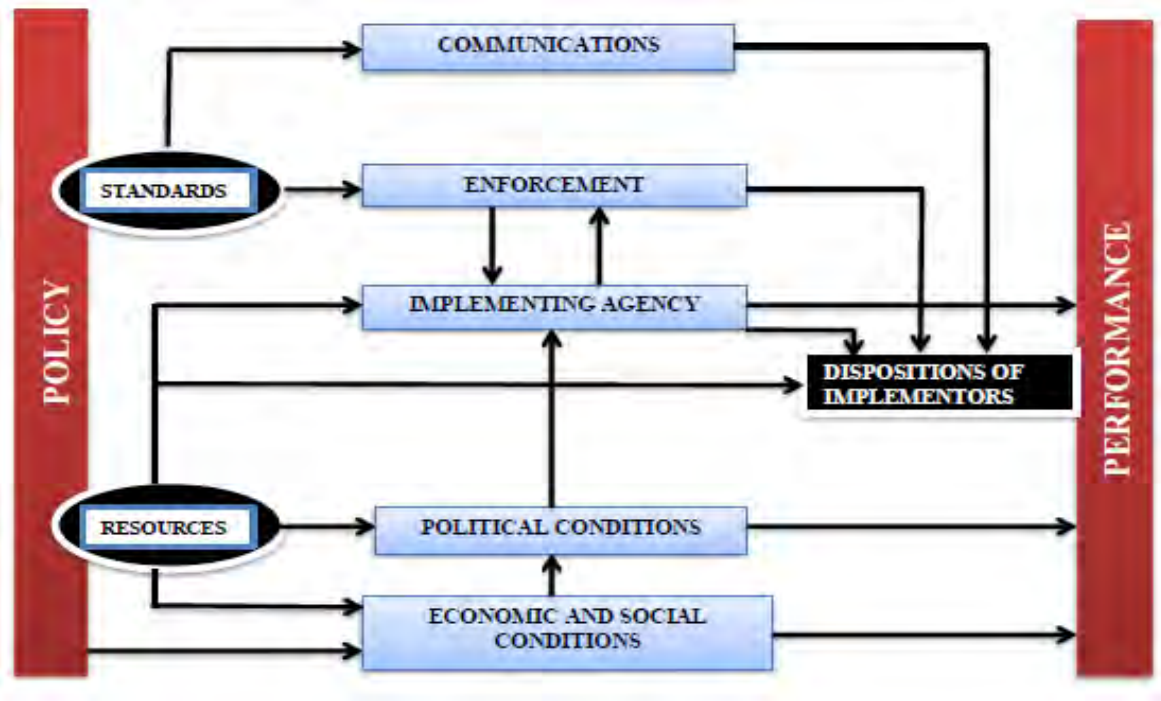
Figure 2.1: Policy Implementation Model Process (Meter & Horn, 1975) (Adapted)

The above model proposes some variables that explain program successes and failures.

- The first factor of the model examines the policy itself in four categories: statutory goals and objectives, the background of the policy, definition of key terms, and the policy's target groups. The first category focuses on the goal and objectives of the law. A policy's goal is the intent or purpose of the law, or what the policy is meant to achieve. A policy's objective refers to specific steps for carrying out the goal.

- Resources: the success of policy implementation depends to a large extent, on the ability to utilize available resources. The roles of human resources are very critical in determining the success of policy implementation. Each stage of policy implementation requires qualified and appropriate personnel. In addition to competent staff, adequate funding is necessary for successful implementation.

- Standards: Setting standards is necessary in all policy processes. Standards determine level of policy, type of policy and the resources that are required, both human and material.

- Communications: Standards, goals, objectives and other procedures are messages that need to be communicated appropriately. Information should be communicated to all

stakeholders through appropriate channels. Messages should be communicated without distortion and in good time. Policy goals and objectives must be communicated to the implementers correctly. All communication must be consistent and uniform.

- Enforcement: Appropriate mechanisms and procedures must be provided to secure compliance.

- Dispositions of implementers: Attitude of policy implementing agencies greatly affects the success or failure of policy implementation.

Meter and Horn argue that the gaps that usually exist between policy decision intent and performance are impediments to effective policy implementation.

2.3   Relationship between Policy and Practice

Flexible Learning Advisory Group (2001) asserts that provision of good or sound policy advice has the potential for translation into good or sound practice by technical and vocational education and training practitioners and managers. While policy is characterized by plan, decisions and intentions, practice is characterized by implementation, actualization, actions and doing. Sound policy is expected to generate practice (Mosse, 2004), lead to, and support sound programs and practices (King et al., 2000).

While policy concerns a written statement about what is to be done, practice concerns with how it is done. Practice comprises of actions and activities undertaken by practitioners to achieve policy goals. Commenting on the relationship between policy and practice, McCluskey (2007, p.1) states:

> Practice is the organised way in which an individual or a group carries out a particular activity.… practice is necessarily the fruit of what individuals do and is largely composed of tacit knowledge rooted in the experience of those individuals and groups. Practice is difficult to exchange with peers on a large scale because it is context-bound…Policy is a set of statements about how a particular goal is to be reached. It seeks to structure and shape specific areas of practice of a large number of people… Policy is generally formalised in writing, whereas much practice resides in experience. Although policy may be the fruit of wide-scale discussion, it is not based on the tacit understanding of a group like with practice, but is rather a decision of a person or body invested with authority.

In technical and vocational education and training systems, different practices are established, developed and implemented to achieve policy goals and objectives. The African Union (2007) asserts that national qualifications framework (NQF) is one of the best practices in the technical and vocational education and training systems in several countries, established and

44

implemented to bring coherence in the system. Policies can be formulated to change particular areas of practice.

2.4   TVET Practices

Technical and vocational education and training (TVET) practices are activities, mechanisms, innovations and strategies undertaken and have proven to be effective in reforming, developing, promoting and improving technical and vocational education and training. UNESCO/UNEVOC (2010, p. 1) indicates that:

> A best practice is a technique, method, process, activity, incentive or reward that is believed to be more effective at delivering a particular outcome than any other technique, method or process. … A best practice in one country may not necessarily be a best practice in another country, but most importantly it provides viable lessons and resources to learn from. In TVET, areas for best practice examples may include, for example, administration or management issues, national qualifications frameworks, integration of information and communication technology (ICT) in learning and teaching, integration of education for sustainable development (ESD), HIV/AIDS education, innovations, TVET for poverty reduction.

Different countries have different practices intended to promote and improve the development of skills necessary for employment. African Union (2007, p. 7) observes that ―the need to link training to employment (either self or paid employment) is at the root of all the best practices and strategies observed world-wide". TVET practices in one country could provide the basis for improvement in other countries.

The African Union (2007) identifies different TVET practices employed by different countries to transform and develop the technical and vocational education and training systems in their respective countries. These practices and innovations include National Qualifications Framework (NQF), South African Qualifications Authority (SAQA) and Sector Education and Training Authorities (SETA) all in South Africa; Council for Technical and Vocational Education and Training (COTVET) in Ghana; Vocational Education and Training Authority (VETA) in Tanzania; National Manpower Council (NMC) in Singapore and the Dual system of vocational training in Germany (African Union, 2007).

According to African Union (2007), TVET practices in Tanzania and Ghana include the establishment of central bodies to regulate, supervise and coordinate the provision and development of technical and vocational education and training in the countries. In Tanzania, TVET regulating and coordinating body, the Vocational Education and Training Authority (VETA), developed and tested new training approaches for the informal sector. The practice

includes designing an integrated training programme (technical, managerial and literacy skills) and finding local training providers for implementation. This practice, according to the African Union (2007, p. 29), involves linking ‑up trainees with credit and business development providers".

In Ghana, the council for technical and vocational education and training (COTVET) coordinates, regulates and oversees the development and provision of technical and vocational education and training in the country. Practices undertaken to facilitate skills development and improve standard of TVET provisions in Ghana include establishment of TVET quality assurance system and registering and monitoring of informal and non-formal TVET sectors, with the view to maintaining standard in the system (COTVET, 2012).

The South African National Qualifications Framework provides a mechanism for recognition of prior learning, which promotes the culture of life-long learning (African Union, 2007). It also facilitates access, mobility and progression within the education, training and career paths and redress injustices in the education and training system (RSA, 1995). TVET practice in South Africa includes employer contribution and involvement of industry in the development of skills (African Union, 2007).

2.5   How Socio-Political and Economic Factors Affect TVET Implementation

The development and provision of technical and vocational education and training in South Africa have been greatly influenced by the social and economic policies of apartheid regime (Akoojee, Gewer & McGrath, 2005; McGrath & Akoojee, 2007). Apartheid's legacy to the democratic South Africa included economic inequality, poverty, restricted employment and low-quality skills development (Seekings, 2007). Poverty is rooted in unemployment as Seekings (2007, p. 15) laments:

> … low-quality schooling, poor links into urban and industrial labour markets, and the growing capital-intensity of production in most economic sectors resulted in the growth of unemployment among unskilled workers and of mass poverty among them and their dependents.

Skills development has been recognized as a viable tool for meeting both social and economic aspirations in South Africa (Akoojee, Gewer & McGrath, 2005; RSA, 1998). Aspirations to develop and provide skills necessary for economic and social developments

have led to legislative approvals of skills development, laws and initiatives, which include Skills Development Act No. 97 of 1998 (RSA, 1998), National Skills Fund (NSF) and Accelerated and Shared Growth Initiative in South Africa (AsgiSA) (RSA, 1998; McGrath & Akoojee, 2007) among others. The Accelerated and Shared Growth Initiative for South Africa (AsgiSA) envisaged achieving the goals of halving poverty and unemployment rates and facilitating equity in employment through improved economic empowerment and growth rate. Post-Apartheid reforms in the education and training system are mechanisms to address injustices perpetuated during apartheid regime as the education and skills of new entrants to the labour force are of great importance in shaping the ways that inequalities evolve over time (Seekings 2007).

In Ghana and Nigeria, TVET implementation is also directed towards providing skills required for socio-political and economic development of the individuals and the countries in general. TVET provides skills for the integration of individuals into the society and contribute towards national developments.

2.6   TVET MODELS

Models of TVET provision varies from country to country depending on the philosophy, vision and policy of each country. Fawcett, Sawi and Allison (2014) indicate that technical and vocational education and training systems worldwide would be categorized into three distinct models: Liberal market TVET model, state-regulated bureaucratic TVET model and the dual system TVET model.

2.6.1 Liberal Market TVET Model

In the liberal market model, technical and vocational education and training and its provision reflect the needs of the private market led by industries and organizations (Fawcett et. al, 2014). In this system, the industry sector skills council decides the types of occupational training for their workers. The liberal market TVET model is often referred to as a volunteer model where private industries and firms volunteer to pay for workers training and apprenticeships (Fawcett et. al, 2014) while governments funds necessary research on occupational and industry demands for skills and also establish skills councils and national qualifications frameworks (Sellin, 2002). Advantages of the liberal market model include responsiveness of training to market demands and low cost of training. The liberal market economy model is common in Great Britain and Australia (Fawcett et. al, 2014).

2.6.2 State-Regulated Bureaucratic Model

Under the state-regulated bureaucratic model, technical and vocational education and training is defined, provided and financed by the national education system (Fawcett et. al, 2014). Technical and vocational education and training is therefore an extension of the national education system. Provision and development of technical and vocational education and training is the sole responsibility of the national government. The national government ensures that workers are sufficiently trained and qualified. TVET policies are all determined and regulated by the national governments. State-regulated TVET model is characterized by theoretical curricula and inadequate student exposure to on-the-job training (Fawcett et. al, 2014). Technical and vocational education and training programmes under the state-regulated bureaucratic model do not necessarily reflect the demands of the industry and the economy (Sellin, 2002). This model is present in France, Italy, Sweden and Finland (Fawcett et. al, 2014), among others.

2.6.3 Dual System TVET Model

In the dual model of technical and vocational education and training, training takes place both in firms (industry and working places) and public training schools. Students sign a training contract with particular company, in which they become employees with trainee status. Besides their training, they are also required to attend a vocational school, with rules similar to traditional school system. The design, development and implementation of technical and vocational education and training in the dual system include a wide range of public and private stakeholders such as trade unions, state agencies and organizations (Fawcett et. al, 2014). A strong public-private partnership exists in the dual system of TVET provision and control. These public-private partnerships form intermediary institutions that are independent of both the state and the private companies which regulate TVET qualifications and ensure TVET stability and also limit the control that the state and the market can have on the TVET system (Fawcett et. al, 2014). In the dual system, the organizational structure of technical and vocational education and training comprises both public and private entities and the training criteria are regulated by both the state and private companies. Employers, trade unions and legislatures coordinate to determine training programmes and curricula.

In the dual system, individual companies pay for the on-the job training while the public sector finances the vocational schools. Countries that practice the dual system include Germany, Austria, Switzerland, Denmark and Norway (Fawcett et. al, 2014).

2.7   TVET policies across nations

Different countries, organisations and agencies have different policies, systems and structures that guide, direct and govern the delivery and administration of TVET. No single TVET policy can be used in all countries. Each country needs to develop its TVET policy based on its level of development and directed towards creating employment opportunities (ILO, 2009). Education and training for self-employment is dependent on government policies and actions (Hailu, 2012).

In a number of countries the provision of technical and vocational education and training is centrally coordinated (Bolina, 1996; UNESCO, 2010). The African Union (2007) notes that central coordination addresses the problem of different qualifications and standards, and centrally coordinated TVET policies are frequently governed cooperatively by key stakeholders which may include governments, industry sectors, TVET providers, labour unions, students and communities (RSA, 2006a; FRN, 1977).

A credible, effective and meaningful TVET policy should match the level of a nation's socio-economic development (Lauglo, 1993; African Union, 2007). According to the International Labour Organization (ILO, 2010), education and training policies and systems reflect the needs and peculiarities of each individual country. Factors that lead to differences between countries in their TVET policies and systems include differences in levels of economic development and in demographic and political structures (ILO, 2010). An empirical study on TVET policy and modes by Lauglo (1993) indicates that TVET policy can also be influenced by the strength and structure of trade unions. Well-developed TVET policies and systems tend internationally to exhibit similarities which include provision of needed skills for employment and economic and national development, participation of industry in deciding training needs, maintaining acceptable standards, adequate financing policy, and continuous monitoring and evaluation of training outcomes (ILO, 2010).

2.8   Philosophical foundations of TVET policies

The TVET sector is experiencing a shift in paradigm. According to Quisumbing (2005, p. 289), ―Its philosophy, vision and mission, goals and objectives, policies and practices, content and methodologies are undergoing transformation". Philosophy, in this context, includes principles that guide a practice (Strom, 1996), and TVET policy should, according to Saleh, Hamzah and Musta'mal (2012), be informed by appropriate education philosophy that

would guide the system to achieve its vision, mission, goals and objectives – education philosophy being seen as a mechanism for improving practice. The theories that underpin TVET may differ from country to country but all of the philosophies have shared concerns such as production of highly skilled workers and the integration of academics in vocational education and training (Wu, 2003).

Despite global changes in the philosophical foundations of education and training, debate and discourse on philosophical foundations of TVET revolve around a common set of issues (Rojewski, 2002). Rojewski (2002, p. 11) notes that ―Charles Prosser and John Dewey have come to represent opposing positions on the nature of vocational education‖ and that the differences between them relate to the purpose of education and training given to the society:

> Prosser believed that the purpose of public education in a democratic society was not for individual fulfilment but to prepare its citizens to serve society and meet the labour needs of business and industry. John Dewey, a pragmatist and progressive educator, disagreed with Prosser, arguing that education should be designed to meet the needs of individuals and prepare people for life in a democratic society (Rojewski, 2002, p. 10).

Prosser‘s education philosophy provides a basis for an education system that focuses on the production or training of large numbers of people for an occupation or vocation in which the key concern is the interest of the market (Lynch, 1997) rather than of individuals. Explaining Prosser‘s philosophy of education, Lynch (1997, p.16) noted that ―Prosser believed that efficient job training would help to ensure that the nation‘s economic needs were met―. In discussing the differences between Prosser and Dewey tin their philosophies of education, Lynch (1997, p. 16) describes Dewey‘s position as follows:

> Dewey emphasised that the purpose of education was to develop informed citizens for a democratic society.... Dewey advocated an education that prepared students in broad problem-solving skills, experimentation, and full participation in democratic processes. Dewey believed that culture should be taught through vocations, but he did not believe in teaching specific skill training.

On the issue of governance in the TVET sector, Prosser‘s position was that TVET should be separated from general education. In contrast, Dewey opposed the principle of differentiated administration of technical and vocational education and training on the one hand and general education on the other (Lynch, 1997), his argument being that delivering the two aspects differently would have the effect of limiting the standard of education offered to the learners (Rojewski, 2002).

Dewey's pragmatic philosophy of education is supported by Zhou (2005), who asserts that education and training should be centred on the development of the learner and the community, with the interests and the development of each learner being the principal focus. According to Zhou (2005), the pragmatic philosophy of education has had a significant influence on the transformation of instruction and delivery methods, textbooks and curriculum reforms. In regard to instruction and delivery methods, the influence of Dewey's philosophy is to be seen in the introduction of project methods which make the system student-centred (Zhou, 2005). A number of authors endorse the emphasis in Dewey's pragmatic philosophy which sees TVET as a sector that recognises students as problem solvers, makers of meaning and active citizens in a democratic society (Miller & Gregson, 1999; Lynch, 1997).

2.9   Global perspectives on national qualifications frameworks

While a national qualification framework is intended to promote general improvement of the quality of education and training, the reasons for adopting it may vary in some aspects from one country to another (Chisholm, 2007). A study by Allais (2010) on the implementation and impact of national qualifications frameworks indicates that even though differences existed among the countries covered in the study, some reasons for establishing national qualifications frameworks remained the same. Atchoarena and Delluc (2002) assert, on the other hand, that national qualification frameworks are based on specific national peculiarities and that their purposes and implementations may therefore vary across countries. In South Africa, a national qualification framework was introduced immediately after the apartheid era as a vehicle for transformation in the TVET system (RSA, 2002, 2008). In support of such an initiative, Tuck (2007) notes that using NQF to reform education systems is increasingly common internationally. Inclusion, access and equity, which have been major concerns in education and training (Syjuco, 2005), could be achieved through TVET (Akoojee, 2005a; Grunwald, 2008) and national qualifications framework systems. The South African Departments of Education and of Labour (RSA, 2002) note that a national qualifications framework is a means for achieving increased access, improved mobility, enhanced quality and integration of workplace development and formal education and training. UNESCO (2010) states that a national qualification framework is an avenue for accessing accredited qualifications by employers, training providers and learners. Qualifications framework is a mechanism that provides for classifying TVET qualifications and improving the quality of

TVET provision (NBTE, 2014). It also provides for recognition of informal and prior learning and improving the relevance of TVET (Abubakar et al., 2013).

The NQF in South Africa was introduced to address inequalities in learning and unemployment among the various racial groups in society (Chisholm, 2007; Allais, 2007). It allows for the provision of consistent and nationally recognised qualifications (Qureshi, 1996). The framework is also a quality assurance system for the registration of standards and quality-assured qualifications in maintaining quality education and training in South Africa (Isaacs & SAQA, 2000; RSA, 2009). The African Union (2007) notes that a national vocational qualification framework is necessary for an effective TVET system, indicating that this will promote coherence in TVET. In recognition of its potential role in the TVET system, several countries have established a national qualification framework to define occupational skills requirement and transform the TVET system (Lauglo, 2006; RSA, 2008). The United Kingdom, Australia and New Zealand were among the first countries to take this step (Bateman, Keating & Vickers (2009), and South Africa has now joined them in having a fully established national qualification framework (RSA, 2008).

2.10 Quality assurance in TVET

An empirical study by Bateman, Keating and Vickers (2009) on quality assurance in the TVET system indicates that parameters for ensuring quality may differ across nations and across various levels of TVET delivery. This view is corroborated by a study on quality assurance (Adam et al. (1997), which indicates that even though different quality assurance models exist, they all have general similarities in their approach to improving and achieving quality. Similarly, an empirical study by Billing (2004) notes that there is no universal quality assurance system but that the characteristics and principles are the same across most countries.

Quality assurance is widely discussed in the literature, and among the range of points that have been made by various authors in this regard, the following are of interest. Quality assurance is seen as an organised process for ensuring and maintaining quality (Kis, 2005) and securing accountability (Harvey & Newton, 2007). As described by Black (1990), quality assurance provides appraisal of the degree of quality of work offered. Quality assurance serves various purposes in TVET. These include improvement in quality of TVET delivery, improved system effectiveness, and higher quality TVET outcomes (Bateman et al., 2009).

National vocational qualification and quality assurance cannot be separated (Kuboni, 2002). Significance of quality assurance in TVET system includes standardization of TVET provision at the levels of the TVET providers, the industry and the economy both nationally and internationally (Yakubu, 2003a). Achieving quality in TVET should require quality assuring authorities to set standards and ensure periodic monitoring and supervision of the TVET sector (Yakubu, 2003a). Quality assurance in TVET should consider teaching and learning materials, teaching methods, teachers, learners, school governance and any other factor that would influence the quality of the system (African Union, 2006). Assuring quality involves various activities and processes (Kuboni, 2002). Basic processes of assuring quality in education and training systems include assessment, accreditation, auditing, monitoring, registration of standards and qualifications, (RSA, 2001; RSA, 2008; RSA, 2012; Kis, 2005; Harvey & Newton, 2007; Anderson et al., 2000; Yakubu, 2003b). Monitoring and evaluation are processes for measuring and determining performances and effectiveness of a system for assurance of quality (Wahba, 2012).

According to Harvey (2004), accreditation refers to the process of establishing the status and readiness of a programme or institution of learning. It involves determining the capability of an institution to run a programme with respect to facilities and personnel. In a number of countries accreditation is a process of ensuring and maintaining quality in education and training (Kis, 2005). Eaton (2012) refers to accreditation as a process of quality re-examination used to inspect institutions and programmes for quality assurance and improvement. The roles of accreditation include assuring quality, improving articulation and facilitating transfer, creating confidence, and facilitating access to government grants (Eaton, 2012). Qualifications obtained from fully accredited institutions are likely to be considered by employers ahead of other qualifications for employment. Accreditation and assessment monitor the quality of teaching and learning (Kis, 2005).

Programme monitoring and evaluation is a mechanism and procedure for checks and balances. It is a system of checking whether programmes are meeting stated objectives (Necesito, Santos & Fulgar, 2010). Programme monitoring and evaluation is a process of determining the effectiveness and quality of a programme and the readiness of TVET institutions in offering programmes. It is a process of improving and developing TVET programmes. Monitoring and evaluation is a mechanism for informing TVET providers what is required of them to deliver quality programmes. It is also a mechanism for knowing when TVET institutions are doing well and keeping to standards.

The TVET sector employs performance indicators for evaluation and accreditation purposes, and these indicators provide information about institutions to employers, researchers, students, parents and organisations (Renaud, 2009). South Africa's *National Plan for Further Education and Training Colleges* (RSA, 2008) declares that TVET institutions should have a monitoring and evaluation system to enable them determine the success of the sector. As listed by the African Union (2007), TVET programme evaluation strategies include proficiency, efficiency, access and equity, industry participation and trainee satisfaction. These are performance indicators to indicate how TVET programmes and goals are achieved, which can be determined through effective monitoring and evaluation. A monitoring and evaluation process is a major requirement in all policies and programmes (Necesito, Santos & Fulgar, 2010). It is a process of informing policy makers about the strength, weaknesses and suitability of a policy in any nation and a process of giving feedback about the effectiveness of a policy or programme. Monitoring and evaluation is useful for tracking progress of a system or programme, improving programme implementation, identifying gaps, and measuring effectiveness of training (Necesito, Santos & Fulgar, 2010). Programme monitoring and evaluation helps in identifying lapses in TVET institutions in terms of teaching and learning materials, quality of teaching and support staff and general readiness of the institutions. The African Union (2007) contends that the TVET sector has weak monitoring and evaluation systems.

TVET programmes do not respond to the needs of the labour market in several countries due to lack of an effective monitoring and evaluation system. Mechanisms for getting feedback on the training needs and demands of industries and the labour markets are not fully established. The consequence is that training programmes in these countries continue to be supply-driven (African Union, 2007), where the emphasis is on training to look for jobs rather than on training required by the economy or the labour market. Lack of an effective and efficient monitoring and evaluation system means that providers are unable to carry out evaluation exercises (Angel-Urdinola, Semlali & Brodmann, 2010). Evaluation is seen as a tool for enabling programmes to work better and thereby enhance development (Harris, 1993). TVET stakeholders can use the feedback obtained from monitoring and evaluation to improve the existing programmes, delivery approach and policies.

2.11 International perspectives on TVET curricula

The foundation for delivery of effective TVET programmes is the TVET curriculum (Black, 1997). The curriculum is a pointer to all learning activities and programmes to be offered in any educational institutions and it should reflect the needs of the communities and of industries (Black, 1997). Joint participation by both society and industry in the development of TVET is therefore essential. Provision of quality TVET programmes should be based on relevant general and theoretical curriculum content (African Union, 2006). Theoretical aspects of TVET should provide a better understanding of the skills acquired and information pertaining to safety and the democratic privileges of a citizen. Embedded in the TVET curriculum should also be compulsory basic education capable of providing generic competencies and attitude and of developing lifelong learning skills, empowering individuals to live peacefully and preparing them for further education and training (African Union, 2006).

TVET curricula should make provision for students who want to achieve success through short courses, and this can be achieved by means of a modular curriculum structure (Black, 1997). A study by Ahmad and Rahman (2013) found that a number of TVET providers were unable to review their curriculum to match the requirements of the job markets, and that the inability of TVET institutions to upgrade their curricula led to the production of graduates with irrelevant skills and qualifications, which made it harder for them to find employment. TVET curricula should undergo review whenever the need arises to ensure that they keep abreast of technological changes and developments (Lauglo, 2006). Academic knowledge and skills are a major factor in students' employability (Harun, 2008), and in the development and acquisition of effective TVET (Dewey, 1916; Rojewski, 2002). A TVET curriculum comprises both what is being taught and the method of delivery (African Union, 2006; Lewis, 1999). Rojewski (2002) indicates that discussions on TVET curriculum components have shifted from narrowly specific academic skills to a wider emphasis on academic and general competency, and technical and social skills. TVET should be geared towards integrating theory and practice (Akoojee, Gewer & McGrath, 2005) for better understanding of skills development processes (Johnson, 1992). The TVET curriculum should keep abreast of technological developments and changes for the provision of responsive knowledge and skills (Majumdar, 2007).

Emphasising the need for incorporating academic and general education in the TVET curriculum, Rojewski (2002, p. 24) states that ‒career and technical education programmes serve several primary functions ranging from integrated academics instruction, to tech prep, to job preparation for employment-bound and educationally disadvantaged youth━.Lynch (2000) comments that CTE programmes should be academically rigorous, career relevant, and equip students with employable skills, adding that the curriculum should also equip students with industry standards and values in addition to employable skills. According to Johnson (1992), the industrial sector now requires a workforce with high level of general education, math and science – a shift that is necessitated by technological advances and innovations that call for a higher level of communication and computational skills. Skills requirements of industries and the economic sector are changing due to technological advancements. To make the TVET curriculum relevant to student needs, society, industry and economic demands, it needs to be updated (Ohiwerei & Nwosu, 2013) to reflect all necessary skills required by the market – a process in which the specific industry needs to be involved in both the design and implementation of the curriculum (Qureshi, 1996).

TVET practice may be categorised according to the model and structure of curricula, mode of delivery, certification, administration, and integration within the total education system of a particular country. It can also be categorised according to sites of delivery (Neal, 2011). TVET curriculum models include competency-based training curricula (COTVET, 2012) and curriculum structure based on a dual system (Lauglo, 1993).

A CBT curriculum is informed by the demands of the industry and the economy, focusing on skills and competences required by the labour market (Baffour-Awuah, 2010; COTVET, 2012; Anane, 2013). The major feature of competency based training curriculum includes provision of desired skills, knowledge and attitude for efficient and effective productivity.

A CBT curriculum is student-centred and flexible (Boahin & Hofman, 2013). Participation of industry is crucial in the design, development, review and implementation of the CBT curriculum (Boahin & Hofman, 2013; COTVET, 2012). Among the countries which have adopted the competency-based approach in education and training include the United States, Britain, Canada, Australia, South Africa and Singapore (Ansah & Ernest, 2013).

A dual-system curriculum model is characterised by two environments of learning – the industry and the schools – where general and theoretical aspects of the learning processes take place in the institutions while the practical aspect takes place at the industry or worksite

(Bolina, 1996; Lipsmeier, 1999; Lauglo, 2006). Countries in which the dual curriculum structure is practiced include Germany, Australia, Switzerland, Austria and Denmark (Lauglo, 1993; Shah et al., 2011).

2.12   Competency-based education and training

Competency based education and training, underpinned by a constructivist philosophy of education (Rojewski, 2002), focuses on development of skills, knowledge, attitude and values necessary for performing a task after completing a programme of study (Boahin, Eggink & Hofman, 2013). In a number of countries there has been a paradigm shift from traditional TVET curricula to competency-based curricula, with competency-based education and training being seen a tool for development and innovation in TVET institutions in a process of national reform (Biemans et al., 2004). Anane (2013, p.119) defines competency-based education and training as ‒an industry and demand driven education and training programme based on well-defined industry generated standards", adding that TVET curricula and programmes of this type should be based on demands and needs of industries. CBT focuses on what students can do in the workplace (Walters, Isaacs & SAQA, 2009). Through accrediting programmes, monitoring and evaluation, and development of required competencies, industry plays a critical role in determining the success of competency-based education and training (Boahin, Eggink & Hofman, 2013).

CBT has been widely acknowledged as an appropriate and effective approach for skills provision (Harun, 2008). It improves skills proficiency and is learner-centred (Sullivan, 1995). It is a system which ensures that students acquire relevant employable skills and proficiency in such skills.

The fundamental objectives of competency-based education and training include recognition of previous achievement, knowledge, skills, experiences, certificates and qualifications; production of competent individuals; promoting sustainable education; and provision of responsive skills (Anane, 2013;). Competency-based education and training is student-centred, and instruction and delivery methods suitable for the system include problem solving, research, direct instruction, small-group teaching and discussion (Anane, 2013). Student assessment is achieved through observation, inspecting product, and questioning (Anane, 2013), in which observation means observing how the learner carries out the task,

product inspection means inspecting what the learner has done, and questioning means asking the students questions.

Among the countries which have introduced competency-based education and training are Australia, Canada, Ghana, Japan, the Netherlands, South Africa and the United Kingdom (McGrath, 2005; Boahin, Eggink & Hofman 2013; Anane, 2013).

However, competency-based education and training is not free from challenges. According to Lauglo (1993), the idea of companies taking control of training may have social and political consequences. Industry and the labour sector require people with relevant practical competences who can drive the industrial sector forward, but Braundy (2004) cautions that while the needs of the workplaces are identified as priorities in the educational sector, the social and ethical aspects are neglected. Concern has also been expressed that CBT may confine its focus to specific skills or observable competencies without considering the learner's interior attributes (Walters, Isaacs & SAQA, 2009). Competency-based education and training may also emphasise rote learning rather than full understanding of the learning process or the principle underlying the task performed (Kodiappan, 2011).

2.13 TVET instruction and programme delivery internationally

TVET instruction and programme delivery patterns can be classified in two distinct ways: according to where and how TVET is delivered or according to curriculum content. Delivery based on curriculum content is basically driven by the philosophy that informs the goals and objectives of TVET. Delivery based on where and how TVET is delivered is linked to socio-economic needs, strength or structure of a country. Economically strong nations could be able to provide adequate facilities for effective TVET delivery. There is no one best approach or pattern of TVET delivery (Black, 1997).

TVET delivery based on curriculum content and driven by education philosophy conforms to Dewey's pragmatic philosophy of education where there is an integration of academics and vocational training (Rojewski, 2002). Delivery of academic subjects with TVET would increase the chances of students accessing higher education (Stone et al., 2008). Some examples of TVET delivery models include (a) delivery of theory through correspondence combined with practical skills provided and assessed at the workplace (b) delivery of theory through correspondence combined with tutorials by visiting teachers, including practical experience in a technical institution and work experience, and (c) delivery of theory partly by

correspondence and partly in-class, with practical aspects acquired through work experience in collaboration with relevant workplaces. Other delivery options include distance learning through organised correspondence and internet services (Black, 1997). Further delivery possibilities are learnerships, distance education, full-time classes and mentorships (Mohlokoane, 2004).

In an attempt to make the delivery of TVET user friendly, the Department of Higher Education and Training in South Africa (RSA, 2012) employs a flexible delivery mechanism to broaden access to training in various situations which includes block-release provision, mixed-mode provision, distance education, and weekend classes. Students' access is not limited to TVET programmes, but extends also to other patterns and modes of instruction and delivery (RSA, 2012). Similarly, the African Union (2007) indicates that training should be flexible and responsive. Neal (2011) also emphasises the need for flexible and responsive instruction and programme delivery, stating that TVET providers need to understand the demands of industry so that delivery mechanisms can be modified to fit the delivery of the skills required by the industries. According to Neal, flexible distance education delivery would provide more opportunities for students to complete their training. Neal adds that flexibility involves choice by learners as to where, when and what they learn. Instructions and programme delivery methods, as indicated by Anane (2013), include discussion and direct instruction techniques. Discussion technique involves discussion and sharing of ideas among peer groups. It promotes deep understanding and critical thinking, and improves interpersonal relationships among students. Discussion technique promotes a sense of belonging in a learning group. Direct instruction technique, on the other hand, does not promote free discussion among students but it is a good method for introducing new topics or explaining how concepts are interrelated.

Other recognised delivery approaches in competency-based education and training include problem solving and research techniques (Anane, 2013). Problem solving approaches promote creativity, improve and develop thinking ability, and make learning more concrete. Research method exposes the students to different options for solving a problem and develops their investigation skills. It is an effective method for case studies, experiments and laboratory projects. The most recent instruction and delivery options for TVET include online delivery, videoconferencing and audio conferencing (Hampton & Bartram, 2002).

Delivering practical skills requires special attention and is different from imparting knowledge or theory (Hampton, 2002). Practical skills acquisition is mostly characterised by the use of special materials and equipment, workshops and laboratories, and smaller class sizes (Hampton, 2002). Hampton (2002) notes that many learning environments use the term ‗competency‘ in reference to practical skills, but argues that competency and practical skill are not interchangeable terms, as competency can also involve the acquisition and application of knowledge or theory that is not linked to a practical skill.

Tools necessary for effective delivery of practical skills include print-based materials, video and multimedia (Hampton, 2002). Video is an effective instruction and delivery medium in teaching practical skills because it combines both visual and audio aspect of the instruction, thereby providing a better understanding of the concept (Hampton, 2002).

However, with differing national levels of scientific and technological advancement, TVET delivery methods may vary from country to country: what is relevant and suitable for one country may not be so for another (Black, 1997). Level of development in terms of infrastructure, economic advancement and the nature of the working environment or work places in any community or country can also influence the selection of delivery model (Black, 1997).

Information and communication technology has had significant impact on the delivery of TVET. In this regard, a study by Shamim et al. (2011) indicates that the use of ICT devices in teaching and learning motivates students and enhances communication processes, confirming observations by Leidner and Jarvenpaa (1995) and Necesito et al. (2010) that ICT is an instrument for improving teaching and learning processes and has the capacity and potentials to facilitate communication processes and accessing of information. A study by Chinien (2003) reported in addition that ICT facilitates administrative procedures and system control in TVET systems, and Sarkar (2012) and Mikre (2011) both comment that ICT has a general capacity to enhance the effectiveness of delivery and learning.

2.14 Assessment in TVET

Assessment in education and training is a process of gathering data and making decisions on students‘ level of competence and performance (Curtis, 2010). It is a process of confirming a student‘s level of proficiency. Assessment practices in TVET should be reliable and consistent (RSA, 2007b) and objective and standardised (ILO, 2005), thereby serving as an

60

instrument for improving teaching and learning (Pongi, 2004). Assessment involves collecting evidence about a student's performance, observing the student while carrying out a task, and passing judgement on the whole assessment process.

The technique and mechanism for assessing students should be dictated by the purpose of the assessment. This may vary according to circumstances, and can include student placement, promotion, selection, certification or employment, or determining the effectiveness of delivery method and areas that need improvement on the part of the students and the teaching methods (Pongi, 2004; Curtis, 2010). Four general types of assessment can be identified: performance assessment, standardised assessment, use of common assessment tasks, and portfolio construction (Curtis, 2010). The multiple-choice mode of assessment, which is a type of standardised assessment, is mostly used for testing and assessing cognitive knowledge, but if professionally constructed, can also be applied to test skill processes (Curtis, 2010). Curtis (2010) adds that standardised assessment is good for programme and institution evaluation. Pongi (2004) notes that selecting the appropriate assessment tool is a crucial consideration in the total assessment process, and that while student assessment is used to determine what students have learnt, and for the purposes of promotion and certification, assessment is also an important mechanism for improving instruction and delivery. In addition, effective assessment reveals students' weaknesses thereby motivating them to improve their learning (Pongi, 2004).

Student assessment is a medium for determining the effectiveness of an educational system and of the delivery method (Curtis, 2010). The South African Department of Education (RSA, 2008) states that for the TVET sector to function optimally its successes and failures need to be reviewed so that weaknesses can be identified for improvement and strengths can be identified for consolidation. This means that for a system to develop and improve on its weaknesses, there is need to identify the weaknesses first before improving on them. In the same way, weaknesses of TVET delivery and assessment methods require identification before steps can be taken to improve on them.

Student assessment is one of the fundamental ways to identify weaknesses in TVET delivery methods. Summative assessments, according to Curtis (2010, p. 3), ‒provide information about the quality of instruction or the effectiveness of the educational systems that have given rise to the observed performances‒. Assessment of students in competency-based education and training involves observing the student when carrying out the task (process), inspecting

or assessing the item produced (product), and questioning of the student (Anane, 2013). Assessment of students during industrial attachment under the CBT system is carried out by industry-based assessors, where students are monitored regularly during the exercise (Anane, 2013). Assessment can also be carried out as a step in identifying the competencies possessed by individuals with a view to recognising prior knowledge and skills for employment, promotion or admission to next level of education.

2.15 Funding TVET

Adequate funding is crucial for quality TVET provision. Funding policy, and how such policy is implemented, will vary from country to country in line with national economic priorities. Funding policies and mechanisms would include public funding, training fees, private funding, international assistance, industry support and funding support from other non-governmental organisations (Atchoarena & Esquieu, 2002; Bolina, 1996; Atchoarena, 1996; Afeti, 2009). The principal source of funding for TVET in most countries is government, with supplementary support from a range of organisations, bodies and individuals. Levies imposed on enterprises – effectively a form of taxation – are a further option for generating funds for TVET support and promotion of skills development (Afeti, 2009). Training funds outside of normal government allocation may be supported by means such as levies on organisations, businesses or industries and by donations from one source or another (Johanson, 2009).

Student training fees (tuition fees) are another important source of income for TVET providers (Atchoarena, 1996). Fees vary from one institution or country to another, based on the policy that governs their imposition, with fees in government-controlled institutions usually being lower than in the case of private TVET providers because the former are supported by government grants while private institutions survive on training fees from students and privately generated assistance and donations.

Financial and material support from international donors can also play an important role in the TVET sector, both in the provision of teaching and learning materials and in support of staff development (Bolina, 1996).

Some TVET policies provide for a dual system of TVET delivery in which funding is a joint responsibility of government and private enterprise (Bolina, 1996). The government takes

care of the school costs while the participating enterprise caters for the practical aspect of the training (Bolina, 1996).

Quality TVET is the bedrock of all social and economic development, and adequate funding is the foundation on which it relies. Provision of adequate qualified staff, and of teaching and learning materials depends on adequate funding of the sector. Moreover, teaching and learning materials and equipment in the TVET sector are expensive, and when funds are lacking to procure up-to-date teaching and learning equipment, TVET institutions forced to make do with obsolete equipment will be unable to produce graduates with the necessary skills for employment (Kingombe, 2011; Oketch, 2007).

2.16 International perspectives on industry–institution collaboration

Productive collaboration between workplaces and institutions of learning can take a variety of forms according to local needs and circumstances, with positive effect on the development and improvement of TVET delivery. Collaboration with industry can lead to curriculum development and improvement, improved quality of education and training, and provision of scholarships (Majumdar, 2008). Collaboration with industry is a means of developing and improving the quality of training given to students in TVET institutions. It is a process of involving the industry in the total education and training system. Collaboration with industries is a mechanism for developing and improving student practical skills. It is also helpful for placement of students in industries to acquire workplace experience under an industrial attachment scheme.

Industrial attachment involves the placement of students in industry and other workplaces to develop and improve their practical skills, and with the further potential of improving their chances of gaining employment on completion of their training programmes (Choy & Haukka, 2009). Industrial attachment introduces students to workplaces, enabling them to apply what they have learnt in the classroom and thereby relate theory to practice; it exposes students to the operation and use of industrial machinery, develops work-based skills, contributes to industry development, and instils good work habits (NCCE (FRN), 2008; Donkor et al., 2009). Collaboration between industry and training institutions also provides opportunities for industry to participate in curriculum and programme development (Borkar & Paturkar, 2013). Industry participation in designing TVET programmes and curricula makes the sector more responsive to the needs of industry and the economy. Participation of

the industry sector helps to ensure that the skills required by industry are reflected in the curriculum, thereby making the curriculum demand-driven and based on industry standards. This in turn, enables TVET institutions to offer programmes required by the industry and the economy.

2.17 Sites for TVET delivery

Institutions or centres for the delivery of TVET vary from country to country, and are usually under the supervision of government ministries or other organisations (Afeti, 2009). In some countries there has been a move to promote TVET institutions as centres of excellence with preferential status (Akoojee & McGrath, 2008). TVET can be delivered in formal schools, formal and informal skill acquisition centres, post-secondary institutions, technical colleges, polytechnics and workplace environments (Kronner, 2005; Usman & Pascal, 2009; King, 1993; African Union, 2007). In many countries, apprenticeship training centres provide an additional opportunity for people to acquire employable skills. Making the workplace a site for TVET delivery can have a number of different implications: it is potentially a shift from dependency on government (King, 1993), it makes education and training demand-driven and responsive to the needs of the market, and it delivers directly to students the skills, knowledge and attitude that are required by the economy and labour market. In addition, private organisations often establish TVET delivery centres as profit-making ventures. The ensuing diversity of public and private sector TVET provision has implications for the quality of education and training offered, giving rise to problems of standardisation.

In addition to provision of necessary skills for employment and economic development, TVET institutions also need to extend access to a greater diversity of students (Akoojee, 2008a), and the TVET sector should develop a policy of allowing students to progress smoothly within the sector without hindrances or barriers to success. For this to succeed there needs to be an effective articulation policy. Articulation is a process that links institutions of learning and promotes transition and progression of students in the education system, enabling movement or progression of students who meet the necessary conditions so that they can achieve success in different areas of the education system (RSA, 2006b). Student progression or movement in the education and training system can be horizontal or vertical. Vertical articulation involves progression from one stage or level to a higher one, while horizontal articulation involves movements within the same levels (Harun, 2008). Vertical articulation provides opportunity for students to access higher education and removes the

assumption that TVET is a dead end (Harun, 2008). Articulation also provides flexibility in the TVET system when it enables students to study at their own pace by leaving their training and resuming it later to suit their own convenience (African Union, 2007).

2.18 TVET lecturers

The quality of TVET lecturers determines the quality of TVET qualifications, programmes, delivery and the system as a whole. The quality of TVET teachers would determine the quality of TVET provision. Education of teachers is central to all forms of education and training globally (Ololube, 2008). The quality of TVET lecturers is critical in the delivery of quality TVET programmes. Baffour-Awuah and Thompson (2012) note that the quality of TVET teachers impacts on the delivery of TVET programmes. Because the quality of teachers affects the quality of education and training, it essential that teachers are adequately prepared (Fareo, 2013). Teacher-education development, which is seen as a crucial challenge in education and training systems (Olakulehin, 2007), should be given priority in all countries. The quality and performance of TVET lecturers will also be improved through partnership with industry, and UNESCO (2012) notes that collaboration between industry and TVET lecturers will improve the competence of the lecturers and promote the provision of responsive TVET programmes.

2.19   Conceptual framework

Fields such as TVET are developed and guided by theoretical frameworks (Doolittle and Camp, 1999) that set out the principles underpinning the field. Chijioke (2013, p.29) comments that ―a good theory should provide the principles which directly govern the teaching–learning process―.Broudy (1981) describes TVET theory as a set of beliefs (sometimes referred to as a philosophy) relating to the goals, policies, curriculum, and teaching methods which have been developed to guide the provision of occupational competence. A well-developed theory for TVET should have consistent principles which provide a basis for consistent and effective TVET policy and practice (Broudy, 1981).

Among the various learning theories underpinning the development and provision of TVET are human capital theory (Schultz, 1971), transformative learning theory (Mezirow, 1997; Raimi & Akhuemonkhan, 2014), behaviourism (Doolittle & Camp, 1999) and cognitive learning theory (Tennyson & Rasch, 1988; Rojewski, 2002). Although Broudy (1981) comments that there is no particular theory that is exclusive to TVET, technical and

vocational education and training policies and practices in different countries may be guided by different theories, philosophies and concepts. Similarly, different studies will be guided or supported by one or more theories, philosophies or concepts.

A good conceptual framework should highlight the general principles expected of a system or practice, which would provide a basis for policy development (Miller, 1996) and establish the educational philosophy that underpins the principles (Rojewski, 2002). This study is based on Rojewski's (2002) career and technical education conceptual framework, underpinned by Dewey's (1915) pragmatic philosophy of education, and based on cognitive learning theory (Tennyson & Rasch, 1988; Rojewski, 2002). Principles of cognitive learning theory include the provision of ―an effective learning environment that improves both knowledge acquisition and employment―(Tennyson & Rasch, 1988, p. 369). Cognitive learning theory facilitates the development of an education and training system that promotes the development of cognitive abilities in addition to occupational education and training. Cognitive learning theory follows Dewey's (1915) philosophy of integrating academics with practice.

Dewey's work is acknowledged as an important aspect of the philosophy called pragmatism (Rojewski, 2002), which is regarded as a relevant philosophy for TVET (Miller, 1996). Dewey's pragmatic philosophy of education sees the aim of education as being to develop individuals for their personal fulfilment and in preparation for life (Rojewski, 2002). Preparation for life would require the acquisition of appropriate knowledge; skills, competences and attitude that would integrate individuals into the workforce to enable them meet their personal needs. Dewey believed that there is a need for democratic relationships among students and he shifted attention from the needs of the school to the needs of students (Gavin Loss & Loss, 2002).

The conceptual framework for this study, based on Rojewski's (2002) CTE conceptual framework, is made up of five components as indicated in the graphical representation below. Philosophy, as indicated in the graphical representation of the conceptual framework, is the source of motivation for the practice. The philosophy provides the general principles underpinning the practice. It also provides a guide for TVET curriculum and delivery

approach. The framework is graphically represented below.
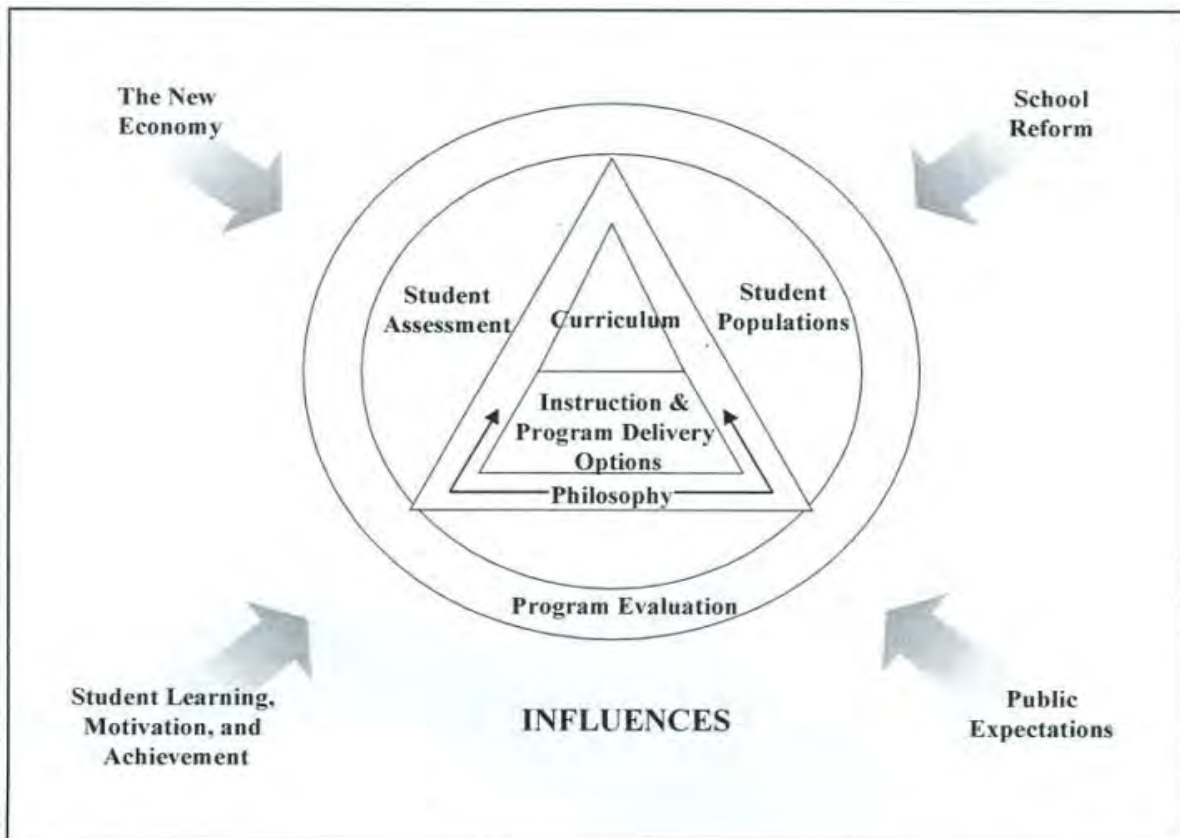
Figure 2-2: Conceptual framework for career and technical education (Source: Rojewski, 2002)

Forces and influences on the framework which have been identified include student learning, motivation and achievement, public expectations, school reform, and the emergent economy. The curriculum component of the conceptual framework refers to the organised body of knowledge given to the students. A curriculum is more than a description of what should be taught; it also indicates how the curriculum content should be taught and the requisite teaching and learning facilities (Anderson & Rogan, 2011). The conceptual framework emphasises the integration of practice and academics in TVET curriculum. Delivery of theory and practice facilitates the development of high-level cognitive skills and also prepares students for higher education (Arthur-Mensah & Alagaraja, 2013). Secondary and post-secondary TVET programmes should be articulated and provide linkages between school and the labour market (Rojewski, 2002). Based on the conceptual framework, the secondary school curriculum should be designed to ─provide more general knowledge about the workforce [and] offer career awareness and exploration activities in specified career clusters─

(Rojewski, 2002, p. 26), while post-secondary education provides the necessary occupational education and training.

In terms of the conceptual framework, student assessment should be _criterion-based‘, facilitate critical thinking among students and reflect industry standards (Rojewski, 2002). The assessment strategies should include checklists, essays, demonstrations, interviews and observations. Program evaluation, as a component of the CTE conceptual framework, is necessary for accountability and obtaining feedback. The TVET system should develop strategies to evaluate the programmes and the system. Appropriate program evaluation criteria or indicators should be identified. The conceptual framework identifies the _tech prep‘ option as appropriate for the TVET system, facilitating articulation between secondary and post-secondary education through the delivery of both academic and technical programs (Bragg, 2000). Tech prep benefits include integration of academics and practice, delivery of skills required by employers, reduced dropout, and progression to higher education (Pucel & Sundre, 1999). The conceptual framework recognises the need to develop and offer programs that would cater for all the student population. Diverse programs would be developed to take care of the different student interests and capabilities.

The conceptual framework also recognizes the influence of internal and external forces on technical and vocational education and training such as the new or emergent economy, school reform initiatives, student learning, motivation and achievement and the expectations of society. Efforts for educational or school reform have influenced technical and vocational education and training curriculum. The curriculum is made to be contextually-based and grounded on the need for students to demonstrate mastery of rigorous industry standards, high academic standards and related general education knowledge (Lynch, 2000). TVET curriculum is dynamic and therefore need to be contextually reviewed as appropriate to reflect new economic developments, innovations and technological change. Appropriate mechanisms for motivating students to enrol in technical and vocational education and training programmes would be devised for higher achievement and to boost public expectations.

2.20   Implications of the literature

The literature above presents relevant general policy matters and issues pertaining to technical and vocational education and training policy, which include discussion on how

policy is understood, relationship between policy and practice and an evaluation of how socio-political factors affect TVET implementation. The chapter also presents policy theoretical and conceptual framework as well as policy implementation model process. This study attempts to compare technical and vocational education and training policies and their implementation in selected African countries

The next chapter presents the general principles of comparative education, research design and methodology.

Chapter 3

General Principles: Comparative Education, Research Design and Methodology

3.1 Introduction

The previous chapter presented the relevant literature for this study. This chapter considers the general principles of comparative education, research design and methodology.

3.2 Comparative education in international context

Akoojee, Gewer and McGrath (2005, p.101) concede that ―all international comparative indicators are fraught with methodological problems. Nonetheless, they do provide some indicative insights into certain areas of relative strength and weakness in national trajectories". Other authors (Raivola, 1986; Kubow & Fossum, 2007; Hans, 2013) indicate similarly that definition, meaning, scope and approach have all been topics of debate in comparative education and study but agree that it contributes to the improvement of education systems and practices. The field is one that has been approached from a variety of theoretical perspectives (Kubow & Fossum, 2007; Kelly & Altbach, 1986), but a common thread linking these perspectives, as noted by Kubow and Fossum (2007), is that comparative education involves an analysis of the similarities and dissimilarities of different national education policies and structures. It is a field of study that explores educational policies and practices of different countries with a view to improving education systems by drawing on the range of international experiences and practices (Hantrais, 1999; Gezi, 1971). As described by Anderson (1971), comparison is also a tool which can be used to develop and improve international relationships between countries.

The focus in comparative education and study should go beyond the general organisational structures, methods and processes of differing practices to include the underlying socio-political and cultural differences that account for such variations (Sodhi, 1993), as historical

factors, traditions and environmental factors in different countries could influence their educational policies (Sodhi, 1993). Cross-national comparative study can reveal traditions and historical backgrounds that are common to different countries and provide insight on how educational practices are approached and handled in other countries with similar backgrounds. In emphasising the importance of comparative study, Sodhi (1993) notes that useful lessons are to be derived from the variations in educational systems of different nations. Comparative study provides an opportunity for countries to learn from each other (Raffe et al., 1999). These lessons and experiences are used to improve reform and reorient the education policies of other countries (Lawson, 1990; Sodhi, 1993; Kubow & Fossum, 2007).

Comparative study also has advantages for educational and systemic planning (Sodhi, 1993) such as extending knowledge of the benefit to be derived from technological innovations and improvements in the teaching and learning processes, including programmed learning and use of ICT and of mass media, radio and television for teaching and learning purposes (Chinien, 2003; Shamim et al., 2011; Bingimlas, 2009; Yuen, Law & Wong, 2003; Wheeler, 2001). These innovations and improvements in the teaching and learning processes would be made known to other countries through comparative studies (Sodhi, 1993).

Comparative study involves the analysis of educational policies of different countries with a view to understanding their educational challenges and their proffered solutions (Chaube & Chaube, 1993;). Chaube and Chaube (1993) note that educational policy is influenced by philosophical background and by political, social, cultural, economic and religious circumstances (see also Kubow & Fossum, 2007). Comparative study analyses the effect of such factors in their influence on educational policies (Chaube & Chaube, 1993) and seeks to arrive at solutions to educational problems through a better understanding of the conditions and circumstances that influence and shape educational policies and systems. Nor is comparative study limited to determining the similarities and differences between the educational policies of two or more countries; it also considers the general principles, theoretical and philosophical foundations upon which various national educational systems are based (Chaube & Chaube, 1993).

Comparative study is a way of identifying the best practice in any educational system from international perspectives (Aggarwal & Gasskov, 2013;). The principle of identifying a successful system in one country through comparative study and using it to improve a related

system in another country strengthens and promotes international relationships among countries (Kelly et al. 1982; Chaube & Chaube, 1993) through better understanding of why the educational policies of some countries succeed while others do not. The influence of a particular system of government on educational systems and developments is also illuminated by a comparative approach. According to Kim et al. (2010), sharing experiences of policies from different countries develops a neutral ground for mutual understanding between nations.

Comparative study also generates information and data for theoretical and philosophical assumptions about educational matters, with theoretical and philosophical assumptions underpinning educational systems of one country informing educational reforms in another (Kubow & Fossum, 2007). Similarly, Powell (2001) and Jones (1971) indicate that comparative education has practical utility in establishing a basis for reform and improvement of education systems by administrators and policy makers.

3.3 Comparative education methodology

There is no single agreed method for comparative research (Gezi, 1971; Jones, 1971). Some authors propose four steps in a comparative approach – description, interpretation, juxtaposition and comparison – while others regard testing of hypotheses as the fundamental comparative element (Gezi, 1971). Bereday (1971) identifies two steps in comparative methods – juxtaposition and comparison – where juxtaposition involves aligning data from various countries to organise them for comparison, thus allowing comparison of systems and practices in different countries at a glance. Presenting data, systems and practices of different countries in tabular form also assists understanding of the similarities and differences between the systems and practices.

Specifying the qualitative research paradigm as the dominant design characteristic in comparative study, Lawson (1990) notes that comparative education is chiefly regarded from a qualitative point of view. Similarly, Chaube and Chaube (1993) point out that comparative study requires analysis in identification of differing categories. They list the following analytical steps in comparative study: data collection, interpretation, determination of standards or categories for comparison, and conclusion. Comparative analysis is a qualitative process of understanding a phenomena and deriving meaning; to cite Leech and Onwuegbuzie (2007), it involves analysing qualitative data to identify similarities and differences (see also Vos & Brits, 1990; Kubow & Fossum, 2007; Sodhi, 1993).

3.4   Research design

A good research study depends on its design, which is guided in turn by the research questions, the research purpose(s) and the research paradigm (Cohen, Manion & Morrison, 2011). Research design provides researchers with a blueprint for collection of data (Suter, 2006) and sets out specifications that direct the manipulations of the data (Krippendorff, 2004). According to Kumar (2005), research design provides a basis and direction for answering research questions. Different studies have different designs based on their purposes and paradigms (Woldetsadik, 2012; Cohen, Manion & Morrison, 2011; Knafl & Howard, 1984).

This study explores TVET policies of the three selected countries and also interviewed TVET practitioners of the selected countries. Exploring, interviewing, understanding, interpreting and making sense of the contents of the policy documents put the study in the qualitative and interpretive research design category (Denzin & Lincoln, 2011), while comparing the TVET policies of the countries under study puts it in the comparative research design category (Fitzgerald and Dopson, 2009; Gravetter & Forzano, 2009). Qualitative research design involves exploration, interpretation and logical organisation of data (Davidson & Gregorio, 2011) and is fundamentally concerned with understanding, interpreting and making sense of data or text (Denzin and Lincoln, 2011; Preissle, 2011). It is flexible, inductive and iterative (Kaplan & Maxwell, 2005). In relation to its role in interpretation and making sense of data and text, Altheide and Johnson (2011) point to the progressive employment of qualitative design in policy studies. An interpretive perspective has the potential to increase the understanding of TVET policy makers in seeking to improve practices and guide the transformation of a system. As defined by Cohen, Manion and Morrison (2011), the purpose of systematic inquiry for an interpretive researcher is to understand a phenomenon in a particular place and time and compare it with similar phenomena in a different place or time.

3.5   Research methodology

Research methodology is informed by the research paradigm, the research purpose and the research questions (Cohen, Manion & Morrison, 2011). This study explores and compares TVET policies across three African countries as indicated in Chapter 1. In light of the focus, purpose and context of this study, I have adopted cross-national comparative methods (Halls, 1990; Hantrais, 1999) employing the qualitative, interpretive approach (Remler & Van Ryzin, 2011; Guba & Lincoln, 1994). Comparative education, as ―a method and an object of study‖

(Halls, 1990, p. 22), focuses on cross-national perspectives (Kubow & Fossum, 2007). The study is qualitative and interpretive in that it is concerned with meanings, interpretations and understanding of phenomena (Neuman, 2006), and it is comparative in that it explores and compares policies of different countries (Chaube & Chaube, 1993; Sodhi, 1993; Kubow & Fossum, 2007).

3.6   Choice of Documents

The study generally explores and compares the technical and vocational education and training in the countries covered by the study and therefore considered policies, legislations, plans and strategies that impact on the development of technical and vocational education and training in the countries. Policies, legislations, strategies and plans considered in South Africa include South African Qualifications Authority (SAQA) Act of 1995; Further Education and Training Colleges Act 16 of 2006; Skills Development Act 97 of 1998; Education White Paper 4 of 1998; White Paper for Post-School Education and Training, 2013; Accelerated and Shared Growth Initiative in South Africa (AsgiSA); Sector Education Training Authorities (SETA); National Skills Fund (NSF) and Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training, 2013.

Interview conducted with the coordinator of Policy and Planning of the Council for Technical and Vocational Education and Training (COTVET) in Ghana revealed that the TVET Policy Review Draft Final Report of 2012 is in use in the TVET sector. Policies, strategies and plans/reports that impact on skills development in Ghana and used for this study include Ghana Draft TVET Policy of 2004 and the TVET policy review Draft Final Report of 2012.

3.7   Cross-national comparative study

Cross-national comparative study seeks to explore social phenomena across nations to identify similarities and differences that will enable lessons to be drawn in determining best practices (Kubow & Fossum, 2007; Hantrais, 1999). Cross-national comparative research is a research method that is capable of identifying best practices around the globe and provides a basis for the development of good practices and policies.

Several countries advocate policies and practices that are based on international experience and research outcomes (Guo & Lamb, 2010), and the way to ascertain and explore

experiences of policies and practices in other countries is through cross-national comparative study (Hantrais, 1999; Kubow & Fossum, 2007).

The chief focus in a cross-national comparative study is on the structure and organisation of education in different countries (Kubow & Fossum, 2007), and a number of authors (Vos & Brits, 1990; Kubow & Fossum, 2007; Chaube & Chaube, 1993; Kelly, Altbach & Arnove, 1982; Cowen, 1990; Wolhuter, 2007) emphasise the usefulness of this approach for improving and reforming education and training systems. It is also cited as a way of identifying the weaknesses and strength of a system (Vos & Brits, 1990). According to Arnove (1982), comparison offers an essential framework for educational reform and development. In reform or transformation of TVET systems, cross-national comparative study offers multiple advantages, and could be seen as indispensable for identifying best practices (Kubow & Fossum, 2007; Lauglo, 2006.

3.8   Policy analysis

Policy documents, of whatever type and at whatever level (national, provincial, institutional, organisational, state, local), may be viewed differently by different people in different countries (Jansen & Reddy, 1988). Analysis of a policy document, which involves unpacking the document into its component parts, is necessary in seeking to determine the purpose of the document (Jansen & Reddy, 1988) and identify potential problem areas (Pershing, 2002). For purposes of modification and improvement, policy analysis identifies silences and gaps, trends and developments, modes of conception and presentation, and possible solutions (Khan, Campbell & Louw, 2007; Jansen & Reddy, 1988; Mintrom, 2010; Kondracki, Wellman & Amundson, 2002).

3.9   Comparative TVET policy analysis

A comparative analysis was made of TVET policies of South Africa, Ghana and Nigeria. Global interest in the development and provision of TVET, which is widely recognised as crucial in the development of human resources for economic development and poverty alleviation (Kim, et al., 2010), has given added momentum to comparative studies of the sector, with international and national bodies all seeking to expand and refine TVET policies and practices on a basis of international experience and research findings (African Union, 2007; Guo & Lamb, 2010). As Guo and Lamb (2010) point out, emphasising the value and utility of cross-national comparisons,

Through the system of performance evaluation obtained by international comparisons, advances or limitations in policy, programmes and structures linked to the performance of TVET systems in different countries can be made apparent or highlighted and lessons learned for local contexts. (p. 32)

Comparative analysis of TVET policies highlights the similarities and differences of TVET systems and provides insight on how to improve TVET practices based on lessons to be drawn from other countries (Schnarr, Yang & Gleissner, 2009). In some cases cross-national TVET comparison uncovers similarities and variations that reflect differing political priorities and economic strengths of the countries concerned (Lauglo, 1993; African Union, 2007). Generally, cross-national comparative studies are driven by desire to learn from TVET structures and policies of other countries or to appraise a given TVET system with a view to bringing about improvement through better understanding of the system (Misko, 2006; Guo & Lamb, 2010; Keating et al., 2002). Making a related point, Aggarwal and Gasskov (2013) note that identifying reliable and efficient policies and practices for effective skills development often presents difficulties for national policy developers.

3.10 Developing categories for TVET policy analysis

This study explores, analyses and compares the TVET policies of South Africa, Ghana and Nigeria.

Using international labour standards and recommendations (UNESCO, 2001, 2003, 2010; ILO 2005, 2009, 2010) for categorisation and analysis, TVET policy areas were categorised into 18 policy-thematic areas. Seven categories were drawn from UNESCO and ILO conventions and recommendations for TVET policy areas. The conceptual framework for this study has six major policy areas as its components (philosophy; curriculum; instruction and programme delivery; clientele or student population; programme evaluation; student assessment) (Rojewski, 2002), and each constitutes a category in the analysis process. Five categories emerged from the researcher's analysis of TVET policies in the countries covered by the study. Finally, a total of 18 policy areas (categories) were drawn from UNESCO and ILO conventions and recommendations, the conceptual framework for the study and from the researcher's analysis of TVET policies in the countries covered by the study. These policy areas/categories were used as the standards for analysing the TVET policies of countries covered by the study and as the comparative categories for the study. Table 3-1 shows how the categories emerged.

Table 3-1: Development of comparative categories for TVET policy area

Categories/policy areas based on UNESCO (2001; 2010) and ILO (2005; 2008; 2010) conventions and recommendations	Categories based on the conceptual framework for the study (Rojewski, 2002)	Categories that emerged from researcher's analysis of policy documents
• **TVET governance** • **Employment services** • **Pre-vocational courses in general education** • **Pre-employment training** • **Lifelong learning** • **Workplace learning** • **Skills for informal and rural economy** • **Human resources in SD** • **Access, equity and gender equality** • **International cooperation and knowledge sharing** • **Funding** • **Certificates and qualifications** • **Quality assurance** • **Institutional training providers** • **Monitoring, evaluation, research and innovation** • **Goals and visions** • **Information and communication technology** • **Concept of TVET**	• Philosophy • Curriculum • Instruction and programme delivery • Programme evaluation • Student assessment • Student population	• TVET governance • Philosophy • Goals/visions of TVET • Concept of TVET • Funding • Curriculum • Information and communication technology • National qualifications framework • Quality assurance • Monitoring and evaluations • Instruction and programme delivery • Student assessment • Student population • Industry collaboration • TVET sites of delivery and entry qualifications • Articulation • TVET challenges • TVET lecturers

3.11 Data collection

The study being based on close comparative of TVET policies of the countries covered by the study, data collection was conducted through document analysis and interview.

3.11.1   Document analysis

Jones (1971) notes that two main origins of information in comparative education are primary sources and secondary sources – with primary sources of data being preferred to secondary sources because they are usually more reliable and authentic. Primary sources of data include material such as legislative documents and papers, first-hand committee reports and administrative files, while secondary sources include material such as textbooks, general commentaries, newspaper reports and periodical articles (Jones, 1971). Kaplan and Maxwell (2005) make the point that documents are principal sources of data for qualitative researchers, as does Bowen (2009), who cites document analysis as data collection instrument. Document analysis requires direct involvement of the researcher in data collection, thus making the researcher an instrument for both data collection and analysis (Kaplan & Maxwell, 2005). Hurworth (2005), noting that document analysis provides the basis for all forms of evaluation, comments that although there is relatively little literature on this point, document analysis is useful for collecting information about a programme, understanding the nature of the programme and finding out the underlying reason behind establishing the programme.

3.11.2   Interview

Semi-structured, open-ended interview was used to generate data that answered research question 3. The question sought to answer how technical and vocational education and training policy was perceived by TVET practitioners in the countries covered by the study. Semi-structured interview is an appropriate method for getting stakeholder's perspectives of technical and vocational education and training because the interview was opened and allowed new ideas to be brought up during the interview as a result of what the interviewee says. Semi-structured, open-ended interview provides in-depth information about participants' thoughts, belief, feelings and perspectives about the issue under research (Johnson & Christensen, 2004). The method allows the participants to contribute detailed and thick information as they wish and allows the researcher to ask probing questions as a way of follow-up (Turner III, 2010). The process allows the researcher to practically see the actions of the participants and attempts to understand these actions in terms of their beliefs and context (Nkosi, 2007). Face-to-face interview allow the researcher to immediately verify data

or aspects that are not clear to both the interviewer and the interviewee. Other benefits of semi-structured interview include allowing the researcher to be prepared and appear competent during the interview, giving the interviewee freedom to express their views in their own terms and providing reliable and comparable qualitative data (Cohen & Crabtree, 2006).

However, the shortcomings of the semi-structured, open-ended interview include difficulty conducting interview and jotting notes at the same time as this will result in poor notes and detract the development of rapport between the interviewer and the interviewee (Cohen & Crabtree, 2006).

3.11.2.1 Data Collection Process

A letter of consent was sent to all the participants indicating the title, nature and objectives of the study requesting for their consent to participate in the study. The participants are technical and vocational education and training stakeholders in the countries selected for the study, which include policy makers, head of TVET institutions and technical and vocational education and training teachers. Semi-structured, open-ended interview was conducted with the view to getting their perspectives of technical and vocational education and training in their various countries.

All those interviewed agreed to participate and indicated their willingness either through filling the consent agreement form or through telephone call. The purpose of the interview was indicated in the letter requesting for their consent and also explained before the actual interview. To encourage the participants explain their perspectives of the topic, I explained and made them to understand that their perspectives of the topic would be useful and necessary for the success of the study and will be kept confidential. All interviews were recorded and transcribed, which allowed the researcher to read and reread for better understanding and reporting. Important policy documents and materials were obtained from some of the participants in the course of the interview and interactions with them.

3.11.2.2 Sampling

Different methods for selecting participants in qualitative research are appropriate at different times (Onwuegbuzie & Leech, 2005) for different research purposes. Sampling involves more than the number of participants selected for a research study, it is a process that includes the number of participants, the number of contacts with each participant and the length of each contact (Onwuegbuzie & Leech, 2007).

Purposeful sampling principles are designed to enhance understandings of selected research participants and for developing concepts (Devers & Frankel, 2000). Researchers seek to achieve this goal through selecting information-rich individuals that provide the greatest insight into the research question.

The participants selected for this study were carefully and deliberately selected for the purpose of providing information-rich data for an in-depth study. Purposeful sampling technique was therefore used to select participants for this study. Data collected through the interview was used to answer research question 3, which required the views and experiences of the participants. Four technical and vocational education and training stakeholders were selected from each country covered by the study, who participated in the study.

Purposeful sampling is a technique widely used in qualitative research for the identification and selection of information-rich data. This involves identifying and selecting research participants who are knowledgeable about or experienced with a phenomenon of interest (Cresswell & Plano Clark, 2011). In addition to identifying and selecting knowledgeable and experienced individuals, purposeful sampling requires that the participants should be able to communicate experiences and opinions in an articulate, expressive and reflective manner (Palinkas, et. al, 2013).

Tongco (2007) contend that purposeful sampling is a deliberate choice of research participants by virtue of their knowledge and experience for the purpose of eliciting relevant and rich data about the phenomena. Purposeful sampling requires that the participants selected for the study need to have broad general knowledge of the topic and whose experience is considered typical (Coyne, 1997).

3.12 Data analysis

A very important aspect of a research process is data analysis, which involves processing data step by step in order to derive meaning from it (Leech & Onwuegbuzie, 2007) – disintegrating and reintegrating the data into related concepts, ideas and categories in a dynamic process of reasoning, thinking and theorising (Basit, 2003).

One of the crucial aspects of qualitative research analysis is coding. Coding, as a qualitative research process, is an act of summarising data or text with a conceptual description (Urquhart, 2013). The text or data may include material such as documents, literature, interview transcripts, journals, field notes, video, participant observation and e-mail

correspondence (Saldana, 2013). Coding involves categorisation of data (Basit, 2003) by gathering sections of the data at a single point that explain the same concept or phenomenon. Elo and Kyngäs (2008) indicate that analysis should be carried out systematically to include coding, grouping, categorisation and abstraction.

To facilitate my analysis generally and the coding process in particular, the NVivo software package was used to code policy documents while interview transcripts were manually coded. NVivo is software developed to facilitate the qualitative analysis process (Cohen, Manion & Morrison, 2007). It assists in organising and managing data for analysis (Richards, 1999; Brewin, Renwick & Schormans, 2008). NVivo enables data analysis to be moved from lower-level themes which require descriptive analysis to a higher-level aspect of analysis that involves drawing of conclusions (O'Neill, 2013). The NVivo software does not carry out the analysis but enables the organisation of data for coding, recoding and other processes (Gunbayi & Ozel, 2012). It can be used to code every element of a data item (Seale, 2002) and arrange the codes under appropriate nodes. A node is a term used in NVivo software management system which refers to a container or place for keeping categories, concepts or codes (O'Neill, 2013; Richards, 1999). Concepts, ideas, people and places can be represented by a node (Richards, 1999).

In order to use the NVivo software appropriately, I first imported all the working documents into the NVivo software and placed them in the folder created for each country. Nodes were created as I coded the documents one after the other. Some nodes (curriculum, instruction and program delivery, student population, monitoring and evaluation, student assessment) were created to represent policy areas which form the components of the conceptual framework (Rojewski, 2002) for this study. All codes having the same concept or idea were placed in the same node, which finally gave rise to 18 nodes as shown in Figure 3-1.
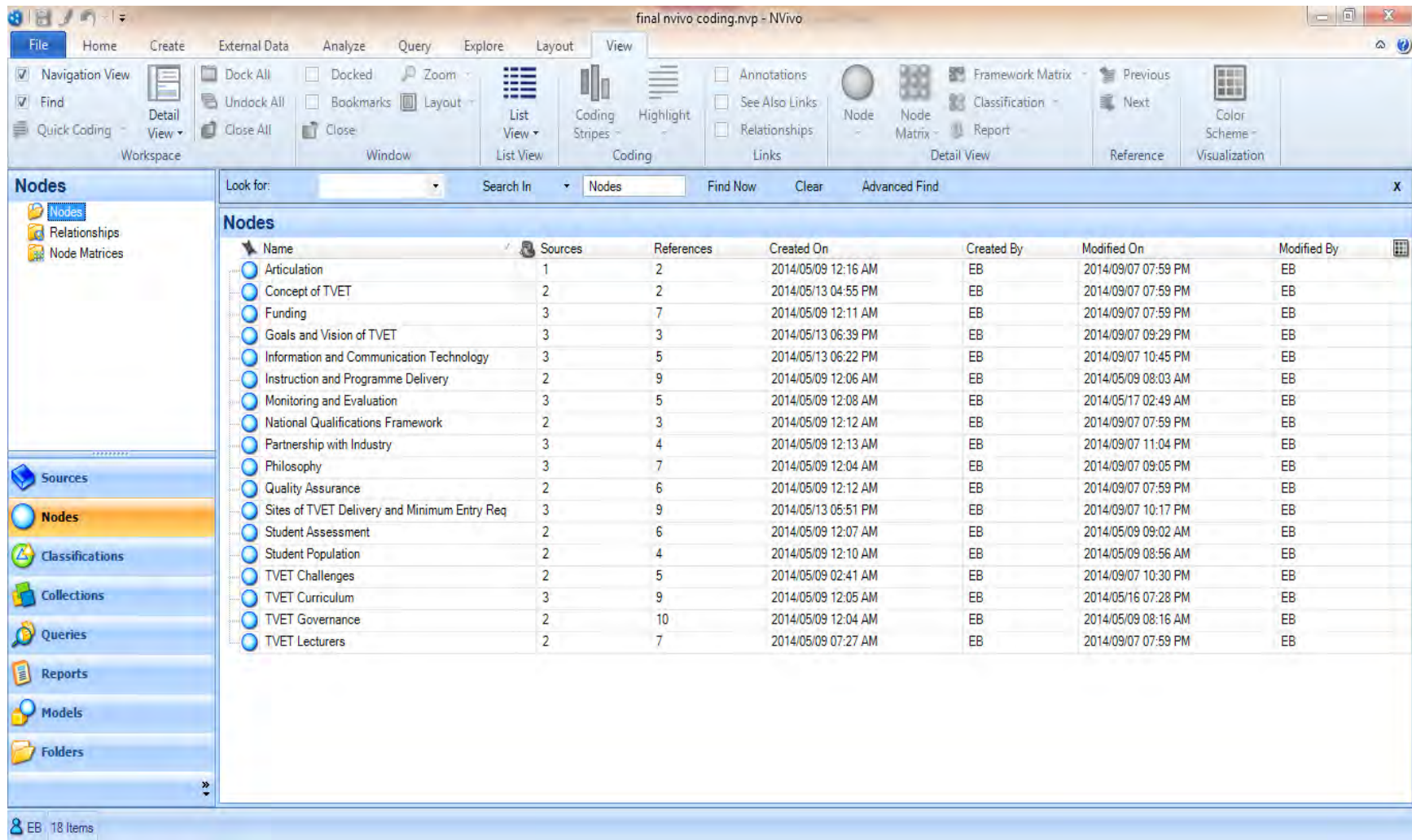
Figure 3-1: NVivo structure showing nodes, sources and references

Figure 3-1 shows the final nodes, which represent the different categories that emerged from the processes of grouping similar concepts and codes. Altogether 18 different categories finally emerged from the analysis of the policy documents, with 6 of the 18 being the same as the categories or components of the conceptual framework for this study. Among these were philosophy, curriculum, instruction and programme delivery, student assessment, student (clientele) population and programme evaluation (Rojewski, 2002). Seven categories (governance, goals/visions, concept of TVET, funding, ICT, quality assurance and TVET providers/delivery sites) that emerged from the analysis of the documents correspond with policy areas for skills development recommended by ILO and UNESCO (Aggarwal & Gasskov, 2013). Some components of the conceptual framework were also policy areas recommended by UNESCO (2001, 2010) and ILO (2005, 2008 2010). The NVivo structure in Figure 3-1 also indicates ‗Sources' in column 2 and ‗References' in column 3. Sources, as used in the NVivo package refers to the total number of materials or sources coded at the corresponding node, which are stored in ‗internals', ‗externals' or ‗memos' folders (O'Neill, 2013). The ‗References' column indicates the number of references coded at each node.

3.13 Coding

In coding, texts that relate to a specific theme, concept or category are selected and coded into that node. In Figure 3-2 below, the nodes are displayed on the left, next to the document which is displayed on the right. The text highlighted in Figure 3-2 relates to TVET curriculum in the document *National Plan for Further Education and Training* which was the primary source document from South Africa. It explains the need for the integration of general and theoretical learning components in TVET curriculum. Since the text relates to TVET curriculum, it was coded into the node named ―TVET Curriculum". The coding was done by first selecting the text, then dragging and dropping it into the node selected at the left hand side. NVivo uses a coding stripe to indicate coded texts of the material or document, and the coding stripe also shows the node the text was coded in. Figure 3-2 shows the coding stripe on the right-hand edge of the NVivo structure.
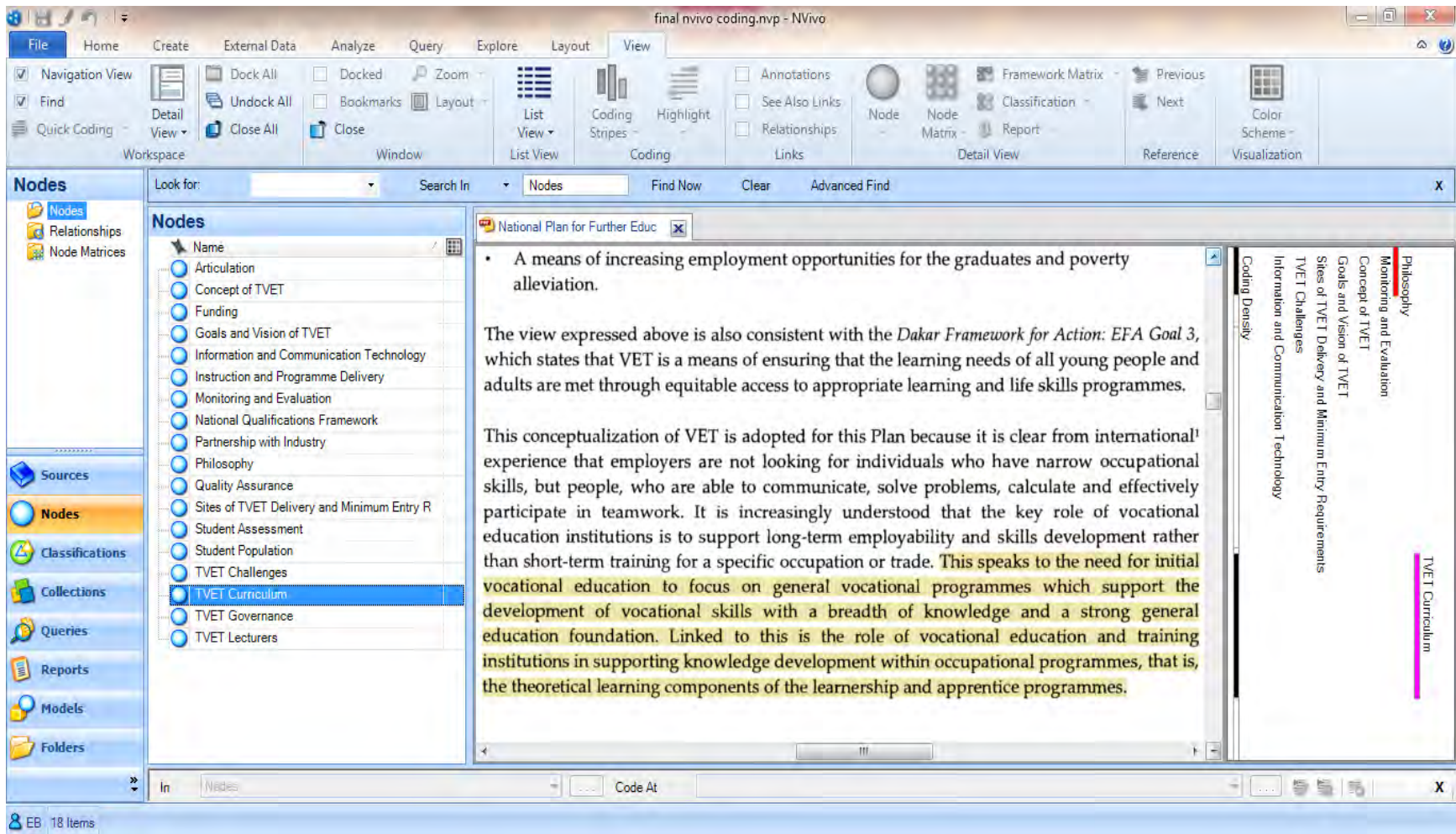
Figure 3-2: NVivo structure showing node, coded text and coding stripe

All coded texts in a node can be seen by double-clicking on the node. Figure 3-3 shows all references in the node ―TVET Curriculum‖ coded from the South African policy document *National Plan for Further Education and Training Colleges*. Figure 3-4 shows all references coded at the node ―TVET Curriculum‖ from the document *TVET Policy Review* from Ghana. Figure 3-5 shows all the references coded at the node ―TVET Curriculum‖ from the Nigerian *National Policy on Education*.
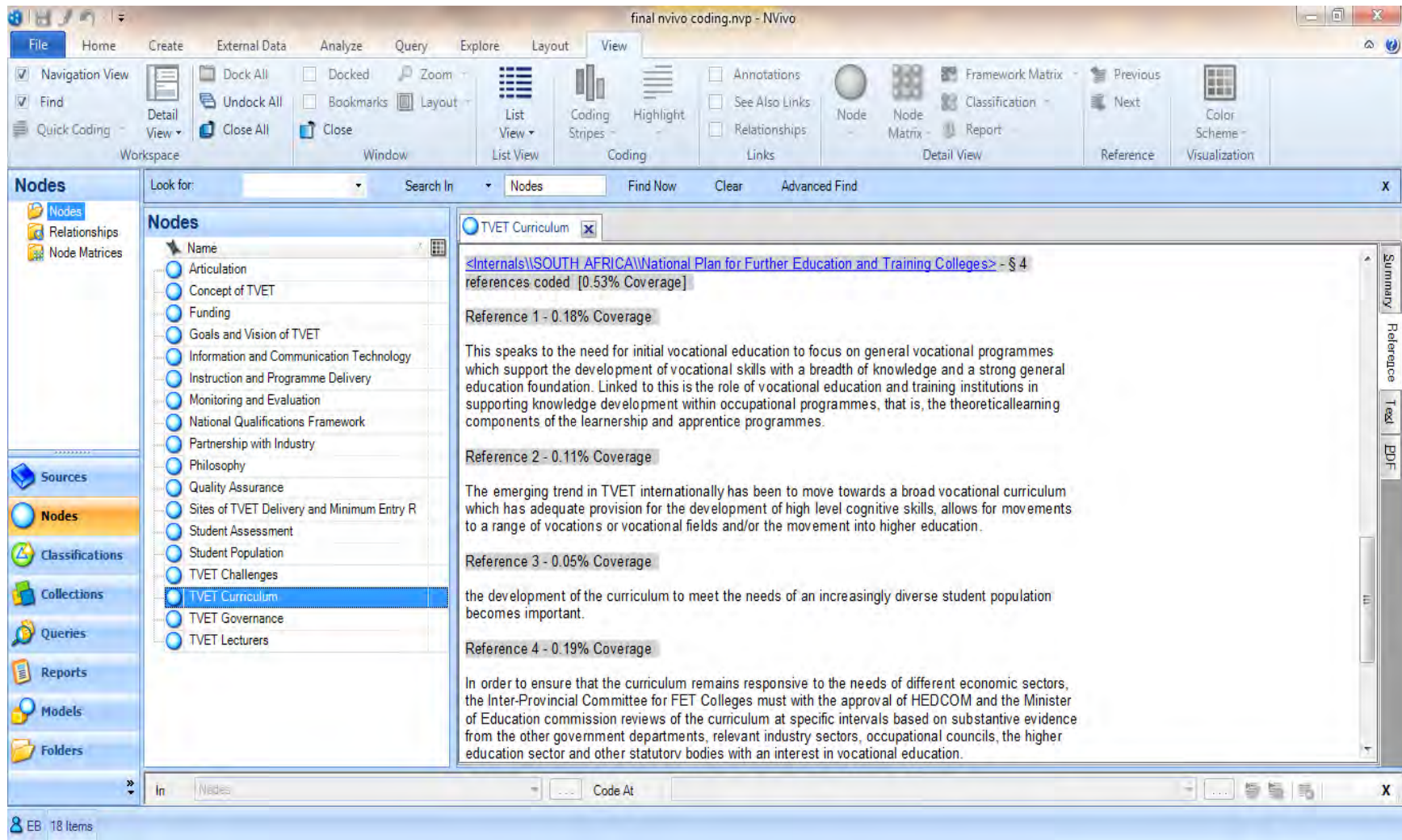
Figure 3-3: NVivo structure: related texts from same source coded at "TVET Curriculum" node
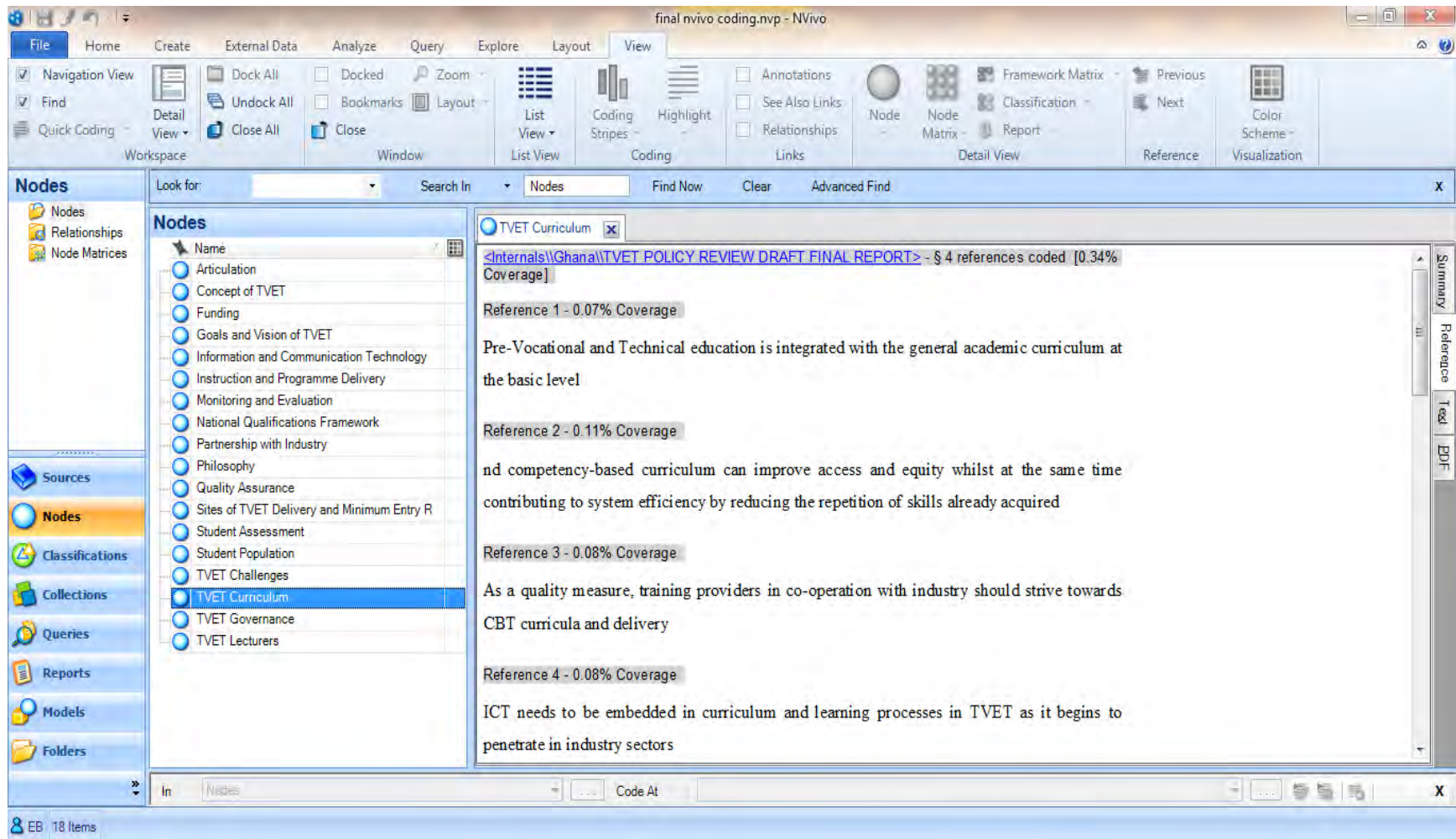
Figure 3-4: NVivo structure: references from same source coded at "TVET Curriculum" node
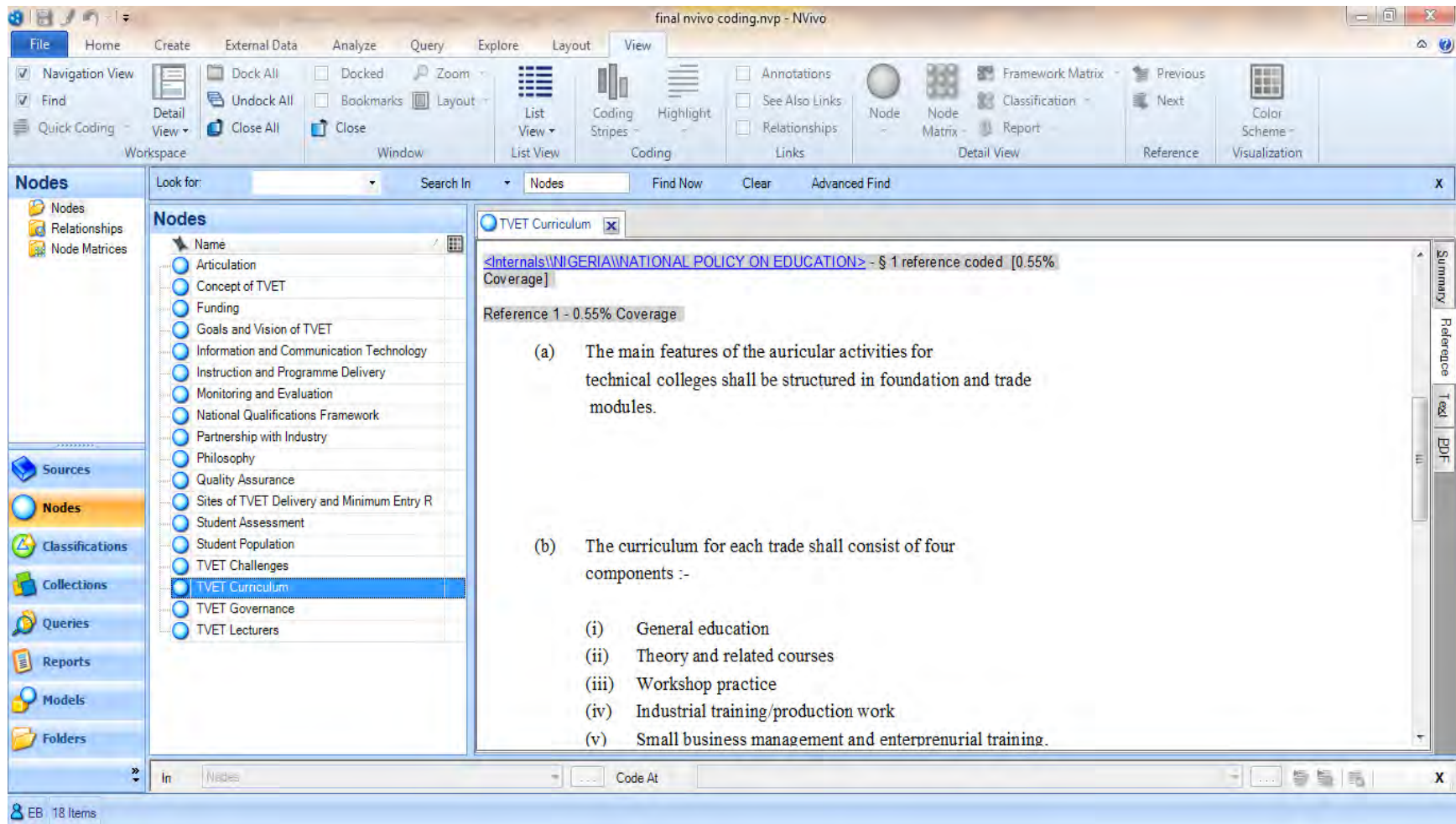
Figure 3-5: NVivo structure: a reference coded at "TVET Curriculum" node

3.14 Ethical considerations

Several authors (Maistry, 2005; O'Brien, 2010) note the significance of ethical considerations in social science research processes. Research processes have a tendency to create tension among research participants regarding their right to participate and to maintain their privacy (Orb, Eisenhauer & Wynaden, 2001). Ethical considerations pertain to the application of appropriate and legitimate processes in the overall conduct of a research study. This is not restricted just to seeking participants' consent, but also covers prevention or limiting of discomfort or misunderstanding ―through the application of appropriate ethical principles" (Orb, Eisenhauer & Wynaden, 2001, p. 93). In qualitative research, primary ethical issues are protecting the rights and privacy of the research participants (Gravetter & Forzano, 2009; Orb, Eisenhauer & Wynaden, 2001) and ensuring that the participants voluntarily agree to participate in the research study. Nor should ethical issues be restricted to just one stage of the research process; they must be observed throughout the research process, from design to conclusion (Fossey et al., 2002; Gravetter & Forzano, 2009).

3.15 Ethical considerations in policy analysis

Policy documents are public documents found in the public domain. As such, they have been subjected to public examination, observation, scrutiny and critique. Data for this research were also collected from TVET policy documents, which are public documents in public domain. According to Kraut et al. (2004), research involving collection of data from documents found in public domain does not require informed consent, but they go on to say that the ethical considerations pertaining to use of such documents should include maintaining the confidentiality of the data and the documents. In this study, I have undertaken an analysis of these very public documents, but was guided by ethical principles in that my approach to the policy analysis took care to avoid grandstanding or critique or slander for the sake of expediency. My intention was to conduct a meaningful, systematic study with due respect for the national provenance of the documents I have used, and with understanding and empathy towards the contexts in which those policy documents were created. My intention is to inform improvement and development of TVET policy in order to advance this sector in Africa, in the spirit of recommendations to this end by authors such as Aggarwal and Gasskov (2013), Kubow and Fossum (2007) and Vos and Brits (1990).

3.16 Achieving trustworthiness in qualitative research

Graneheim and Lundman (2004, p. 109) make the point that ‒research findings should be as trustworthy as possible and every research study must be evaluated in relation to the procedures used to generate the findings". Each research paradigm should establish a standard or benchmark for ensuring trustworthiness (Morse et al., 2002), and authors have identified various approaches for achieving trustworthiness in a qualitative research study (Riege, 2003). The application and use of evaluation tools or concepts differs between qualitative and quantitative research paradigms (Graneheim & Lundman, 2004), with validity and reliability being concepts for describing trustworthiness in the quantitative research tradition (Morse et al., 2002), while credibility, transferability, confirmability and dependability are correspondingly used in the qualitative research tradition (Lincoln & Guba, 1985; Guba, 1981; Graneheim & Lundman, 2004). Other terms employed in qualitative research validation include integrity, criticality and authenticity for primary criteria and congruence, sensitivity, thoroughness, creativity, vividness and explicitness for secondary criteria (Whittemore, Chase & Mandle, 2001).

According to LeCompte and Goetz (1982), validity and reliability are significant issues in all research findings, and are employed to judge the credibility of the overall research process. While reliability pertains to replicability of findings, validity concerns accuracy of the research processes and findings (LeCompte & Goetz, 1982). Gravetter and Forzano (2009) relate validity to the degree of accuracy in measurement process and reliability to consistency and stability of the measurement processes.

Long and Johnson (2000) question the need for different trustworthiness criteria for each of the two research paradigms (qualitative or quantitative), arguing that the basic criteria in each case are in fact identical and serve the same purposes. Hamberg et al. (1994) argue on the other hand that validity, objectivity, reliability and generalisation cannot be employed to establish trustworthiness in qualitative research.

Because this study employs the qualitative research tradition, trustworthiness will be established according to credibility, transferability, confirmability and dependability (Lincoln & Guba, 1985; Guba, 1981).

3.16.1 Transferability

Transferability, as a trustworthiness criterion, is regarded as a concept for determining external validity in a positivist paradigm (Rolfe, 2006) and is understood as the characteristic of a research finding that enables it to be transferred and applied in different settings under the same conditions and circumstances (Shenton, 2004). In this study, transferability can be achieved by providing data on TVET policies and practices of different countries that may be used as a basis for reform and improvement in TVET policies and practices of other similar countries (Vos & Brits, 1990; Kubow & Fossum, 2007). According to Malterud (2001), the objective of a research study is to bring about information that can be used outside the study area. Graneheim and Lundman (2004) point out that transferability of research outcome can be facilitated by proper and adequate description of culture and context, research data, analysis, and research findings.

3.16.2 Credibility

According to Graneheim and Lundman (2004), credibility concerns the focus of the study and also includes the authenticity of the research data and process in achieving the aim of the study. Credibility of qualitative research process and findings can be established in several ways. One of these is triangulation, which, as described by Cutcliffe and McKenna (1999), may involve using different sources of data collection, different methods of analysis, different methods of results verification, different categories of data, and study settings with different socio-economic backgrounds. To achieve credibility in this study, different methods of analysis were employed which include open coding and the use of NVivo software. Results verification processes for the study included presentation in PhD cohort seminars and conferences.

Credibility in qualitative research accords with positivist criteria for internal validity (Hamberg et al., 1994; Morrow, 2005; Rolfe, 2006). To achieve credibility in a qualitative study, the true position of the phenomenon under examination should be presented (Shenton, 2004), as qualitative credibility relies on the authenticity of research data and processes. Research data should be genuine and free from researcher's assumptions. In this study, credibility is achieved by providing authentic and genuine data. Data were generated for the study through the analysis of TVET policy documents of the countries under study. All the data generated for the study were free from assumptions, sustaining the credibility of the research processes and findings. Shenton (2004) makes the further point that credibility is

achieved if the study addresses what it is expected to address. In this regard, the present study is credible insofar as it addresses the focus of the study, which is to explore, analyse and compare the TVET policies of the countries under study.

3.16.3 Confirmability

Confirmability, according to Cutcliffe and McKenna (1999), involves the application of various methods or approaches in a study in such a way that data, results or phenomena confirm one another. Trustworthiness in qualitative research would be achieved when data from one source is confirmed by the same data from another source. To achieve confirmability, Shenton (2004) cautions, researchers should make sure that research findings come from their data and not from their predisposition. According to Morrow (2005), confirmability is the concept which establishes objectivity in the quantitative research paradigm. In this study, confirmability is achieved in that data, concepts and categories that emerged from the analysis of one policy document were confirmed by another policy document within the same country, and also (noting Shenton's caveat), in that all the findings are based on the data generated for the study.

3.16.4 Dependability

Dependability, considered to be a concept for reliability in the positivist paradigm (Driessen et al., 2005; Rolfe, 2006; Morrow, 2005), is achieved in qualitative research through periodic feedback and successive information gathering (Driessen et al., 2005). For Lincoln and Guba (1985), dependability includes considering the reason for changes in researchers' decisions due to changes in data. When data collection process extends beyond the stipulated time, there may be inconsistency in the collection process (Graneheim & Lundman, 2004), and trustworthiness of the data and the research process would therefore depend on the circumstances influencing the research process. Shenton (2004) states that dependability would be achieved if after repeating the same study, in the same context and employing similar methods the same results would emerge. The present study would be dependable on this principle in that the same results would be obtained after repeating the same study, using the same data and with the same purpose.

3.17   Preliminary research process

Ethical clearance, dated 11 March 2013, protocol reference HSS/0109/013D (see Appendix 4), was granted by the University of KwaZulu-Natal to carry out the research project under the title, ―Technical and Vocational Education and Training Policies in Selected African Countries‖. However, after defending my research proposal and subsequent presentations at PhD cohort groups, the topic was changed to ―A Comparative Analysis of Technical and Vocational Education and Training Policies in Selected African Countries‖. The decision to change the title was informed by the fact that the new title better reflects the focus of the study, which is on policy analysis and comparison of TVET policies. Procedures for change of topic were duly followed. The form for Motivation for Change of Dissertation/Thesis Title was completed, signed by my supervisor and approved (see Appendix 5).

The next chapter presents an analysis of Technical and Vocational Education and Training in Nigeria.

Chapter 4
Technical and Vocational Education and Training in Nigeria

4.1 Introduction

The previous chapter having considered research design and methodology for the study, this chapter presents an analysis of Technical and Vocational Education and Training in Nigeria. Nigeria's TVET policy is incorporated in the broader national education policy as set out in ―Section 7: Science, Technical and Vocational Education" in the document entitled *National Policy on Education* (hereafter referred to in this chapter as the *National Policy*). The analysis is therefore restricted to the TVET section of the policy document together with related material that pertains to TVET. Document analysis was used to determine the purpose of a document (Jansen & Reddy, 1988) and identify potential problem areas (Pershing, 2002). It was also employed to identify silences, gaps and how a particular phenomenon is conceived and presented (Khan, Campbell & Louw, 2007; Jansen & Reddy, 1988) for purposes of modification and improvement. Trends and developments can also be revealed through content or document analysis (Kondracki, Wellman & Amundson, 2002).

4.2 TVET philosophy

In view of the fact that TVET policy is incorporated in the broader national policy on education, the general comment in the policy document about philosophy of education is applicable to all sectors of education and training in the policy. However, the particular philosophy that specifically underpins the provision and development of TVET can be inferred from the *National Policy* document. The philosophical foundation cited in the policy document proclaims a commitment to providing equal access to educational opportunities, developing individuals to become useful members of the society who contribute to the development of the community:

Nigeria's philosophy of education therefore is based on:- the development of the individual into a sound and effective citizen; the full integration of the individual into the community; and the provision of equal access to educational opportunities for all citizens of the country at the primary, secondary and tertiary levels both inside and outside the formal school system (FRN, 2004, p. 7).

Developing and integrating individuals into the community would require the provision of appropriate knowledge, skills and competencies. Individuals should be integrated into the community and the labour force through acquisition of employable skills, which would be acquired through TVET. Inferred from the general philosophy of education as stated above, the philosophy underpinning TVET should be to provide knowledge, skills, and competencies that would develop individuals to become useful members of the society. The goal for TVET would be to equip individuals with relevant knowledge, skills, competencies and attitude that would integrate them into the labour market:

Technical and vocational education is further understood to be: an integral part of general education; a means of preparing for occupational fields and for effective participation in the world of work; an aspect of lifelong learning and a preparation for responsible citizenship; an instrument for promoting environmentally sound sustainable development; a method of alleviating poverty (FRN, 2004, p. 29-30).

TVET would be able to equip individuals with skills and competencies that would sustain them throughout their career. The *National Policy* recognises that TVET should be a basis for facilitating technological development and improving individual's standard of living. TVET should be able to develop individuals socially and economically.

Integration of theory and practice is part of the philosophy that informs technical and vocational education and training in Nigeria. Practitioners of TVET interviewed indicated that technical and vocational education and training curriculum comprises of both theory and practice as traditional subjects like English, Mathematics and Physics form part of the curriculum.

…the curriculum also comprises of theory or general education, which include subjects like Mathematics, English, physics. .. (Participant 9: Nigeria).

The participant noted that theory and science-related subjects promote and facilitate the understanding of the skills development processes. Furthermore, technical and vocational education and training system also aims at developing individuals intellectually and socially in addition to provision of skills necessary for employment and for agricultural, commercial and economic development.

Inclusion of traditional school subjects like English, mathematics and physics in TVET curriculum, as acknowledged by the practitioners of technical and vocational education and training in Nigeria implies the realization of the aspect of TVET philosophy in Nigeria, which states that theory and practice should be delivered together.

However, participant 10, who is from Nigeria, lamented that in practice, graduates of technical and vocational education and training do not have the skills to either establish their businesses or do what they were trained to do.

> … you see the reality is that most of our graduates cannot be able to practice what they were trained to do because they lack the skills. They cannot operate simple machines or carry out welding operations. They did not learn those skills due to so many factors, which include lack of qualified teachers and learning facilities (Participant 10: Nigeria).

Poor quality of training due to unqualified teachers and inadequate teaching and learning facilities are challenges to realizing TVET philosophy of providing individuals with employable skills.

4.3 Concept of TVET in Nigeria

The *National Policy* notes the characteristics and the broad nature of TVET. It recognises that TVET should be inclusive and comprise all aspects of education and training that would effectively prepare an individual for the world of work. The policy indicates that traditional school subjects should be a component of TVET to provide a strong foundation for the understanding and development of practical skills and competencies. Generally, TVET is conceived in the policy as follows:

> Technical and vocational education is used 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 (FRN, 2004, p. 29).

Nigerian national Policy on education recognises that TVET should involve the acquisition of scientific knowledge and its practical applications. The policy notes that acquisition of practical skills and competencies should be an aspect of TVET, producing individuals with employable skills and competencies. In addition to the provision of skills and competencies, TVET would be able to develop a good working culture among employees in different

occupational trades. The National Policy also recognises the need for TVET to expose students to different career opportunities.

Technical and vocational education and training is conceived in Nigeria's national policy as education and training capable of providing skills and competencies that would integrate individuals into the labour market. However, interview with TVET practitioners in Nigeria revealed that technical and vocational education and training is perceived by the public as a sector meant for students with academic disabilities.

> … Contrary to the vision and objectives of the sector, it is perceived by the public as programmes designed for students with academic difficulties (Participant 9: Nigeria).

The negative public perception of the TVET sector contradicts the way the sector was conceived as indicated in the policy document and therefore constitutes a challenge for the technical and vocational education and training system. Negative perception of technical and vocational education and training by the public poses a challenge for the sector as it is viewed as education and training for the academically weak students with low status.

4.4   Goals of TVET in Nigeria

The *National Policy* decrees that the goals of TVET should be to produce a qualified workforce able to apply scientific knowledge and develop practical applications. The TVET system should be able to produce individuals who can apply theoretical knowledge to solve practical problems. The target of TVET would be to produce an efficient workforce for the labour market, equipped with skills and competencies responsive to the needs of the industry.

> The goals of technical and vocational education shall be to:- provide trained manpower 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; give training and impart the necessary skills to individual who shall be self-reliant economically (FRN, 2004, p. 30-31).

The *National Policy* notes that the target of TVET should be to equip the workforce with entrepreneurial skills needed for self-sufficiency in establishing a business: skills that would help and encourage them to invest their resources in businesses which could make them self-reliant, thereby promoting their individual economic and social development but also reducing their dependency on government and helping to create employment opportunity for other people. Also specified in the policy is the need to equip individuals with the knowledge,

skills and competencies required for development and improvement of the various sectors of the economy.

Although, the goals of technical and vocational education and training includes providing responsive workforce in all aspects of the economy including the provision of skills for self-reliance, interview conducted with stakeholders of technical and vocational education and training in Nigeria indicated that not all TVET graduates acquired the necessary skills to achieve the goal of self-sufficiency. Participant 10, who was from Nigeria, lamented that many TVET graduates lack basic skills necessary for self-reliance evidenced by their inability to demonstrate some basic practical skills expected of them. Similarly, participant 11 noted that the goals of technical and vocational education and training are far from being reached in Nigeria. According to him, the system does not provide the necessary skills required for employment.

> … Their skills are not relevant to what is required in the industries… (Participant 11: Nigeria).

Also commenting on the failure of the TVET system in achieving its goals, participant 9 indicated that provision of unresponsive skills contributed to the high rate of unemployment among TVET graduates. The goals of technical and vocational education and training in Nigeria require that individuals be provided with skills necessary for employment and for economic and commercial development. The inability of the TVET system to provide those skills that are responsive to the needs of industry and the economy is a challenge for the entire TVET system.

4.5   Funding TVET in Nigeria

The National Policy on Education (NPE) in Nigeria notes that TVET is expensive and therefore requires adequate funding. Significant cost factors include teaching and learning equipment, without which the system will be unable to yield the desired results, and the policy indicates that government thus has an obligation to provide sufficient funding for the system to maintain its quality and sustainability:

In recognition of the fundamental importance and cost-intensive nature of technical and vocational education, Government shall provide adequate funds for vocational/ technical education...Recognising that vocational education is an integral part of technological development, a greater proportion of education expenditure shall continue to be devoted to vocational education at federal and state levels (FRN, 2004, p. 35)

The financing of education is a joint responsibility of the federal, state and local governments and the private sector. In this connection, government welcomes and encourages the participation of local communities, individuals and other organisations (2004, p. 61).

The *National Policy* also notes the contribution of TVET in the practical improvement and development of the environment.

Having underlined the importance of TVET, the policy proposes that it should continue to be getting an increased allocation of funding both at federal and state levels, funding of education being a collective responsibility of all tiers of government (federal, state and local). In addition, government encourages contributions from non-governmental organisations, individuals and communities.

Industrial Training Fund is a government initiative in Nigeria that supports the development of technical and vocational education and training at all levels both in public and private sectors. Contributions to the Fund are used to promote and facilitate the acquisition of skills for economic, social and technological development and also for employment and self-reliance. Industrial Training Fund is used to support and promote students' workplace training through Student Industrial Work Experience Scheme (SIWES) as the Fund is basically meant to promote and encourage the acquisition of skills in industry and commerce (FRN, 2011).

Although, Nigeria's national policy on education indicated that adequate funds would be provided for the development and provision of technical and vocational education and training, interview conducted with practitioners of technical and vocational education and training in Nigeria revealed that technical and vocational education and training is grossly underfunded.

Lamenting on the impact of inadequate funding of technical and vocational education and training, Participant 10 noted that inadequate funding was responsible for inadequate teaching and learning facilities.

> …departments lack adequate teaching materials due to lack of adequate fund (Participant 10: Nigeria).

Participant 10 above further revealed that some years back, funds were made available for the purchase of facilities but that things have changed now. According to him, technical departments could not even afford to repair and maintain damaged facilities due to lack of funds.

While commenting on funding of technical and vocational education and training, Participant 9 expressed that additional fund is necessary for the development and progress of the TVET sector. Provision of Quality and responsive skills is based on quality, competent and responsive teachers and facilities, which is also based on adequate funds.

4.6   TVET curriculum

The TVET policy notes the distinctive characteristics of the TVET curriculum in TVET institutions, indicating that it should be based on occupational and cognitive skills, and that, in addition to the practical and occupational components of the curriculum, there should also be integration of traditional school subjects which would provide a strong foundation for the development and understanding of the practical skills:

> The main features of the curricular activities for technical colleges shall be structured in foundation and trade modules. The curriculum for each trade shall consist of four components:- General education; Theory and related courses; Workshop practice; Industrial training/production work; Small business management and entrepreneurial training (FRN, 2004, p. 31).

Traditional school subjects as an aspect of TVET curricula should provide opportunities for students to develop their writing and communication skills and critical thinking skills, thus equipping them for diverse career opportunities and giving them a strong foundation for further education and training. This integration of academic subjects should lead to a better and deeper understanding of the process of skills development.

Integration of workplace training into the curriculum for each occupation or trade in the TVET system, which is a further element in the national policy, will expose students to real-life situations and provide an opportunity for practicing what have been taught to them in the

classroom. The policy also indicates that development of entrepreneurial and business skills that would be needed in establishing an enterprise should similarly form part of the TVET curriculum in its overall objective of providing the skills needs of the industry and the economy:

> Government recognises the importance of technical and business education and the need to relate its programmes to the requirements of commerce and industry (FRN, 2004, p. 61).

The policy thus gives a clear indication that the design of TVET programmes should be responsive to the needs of industry and the economy and reflect the demands being made on the labour force.

However, responses of interview conducted with stakeholders of technical and vocational education and training in Nigeria indicated that although, TVET curriculum comprises of both theory and practice, it has not been fully responsive to the needs of commerce and industry.

> So many TVET graduates are jobless today because the skills they have are not what the markets or workplaces are looking for. You see, the fact is that even the computer training students receive is either too elementary or is not what the industries and other developed workplaces are looking for (Participant 9: Nigeria).

The responses of the participant above imply that technical and vocational education and training curricula are not responsive to the needs of the industry and the economy. The curriculum requires review so that skills and programmes that would be responsive to the needs of the student, community, economy and the nation at large would be reflected. There is need for strong collaboration between TVET institutions and the industry so that industry demands would be identified for the purpose of reviewing and updating TVET curriculum.

4.7   Information and communication technology

Even though no specific mention is made in the integrated *National Policy* document of how information and communication technology should be incorporated in the TVET system, the general comments about the importance of ICT in Nigeria's education and training system are clearly applicable also to the TVET sector. The policy recognises that ICT is necessary

for promoting and accelerating the provision of education in a developed society, enabling the acquisition of skills and competencies that would prepare individuals for the world of work:

> In recognition of the prominent role of Information and Communication Technology in advancing knowledge and skills necessary for effective functioning in the modern world there is urgent need to integrate Information and Communication Technology into education in Nigeria (FRN, 2004, p. 17).

> Government shall provide facilities and necessary infrastructure for the promotion of Information and Communication Technology (ICT) at all levels of education. (2004, p. 54).

A further reason given for incorporation of ICT is to facilitate and improve the quality of education and instruction processes. The policy recommends that the requisite ICT facilities should be made available by government to equip all levels of education.

Interview conducted with practitioners of technical and vocational education and training in Nigeria revealed that although, information and communication technology has been recognized as a vehicle for advancing knowledge and skills, most educational institutions have not been adequately equipped with the ICT facilities.

> Information and communication technology enhances effective teaching and learning but most of the schools around are not equipped with the ICT facilities. Government supplied computers to few schools but were mostly kept in stores or principals' offices (Participant 10: Nigeria)

> … in this college we have computers and other ICT facilities but are not adequate (Participant 9: Nigeria).

Responses of the participants indicated that the quality of education and training can be enhanced through information and communication technology but lamented that most of the educational institutions lack adequate ICT facilities. The few ICT facilities provided to some schools were inadequate and not used to enhance teaching and learning but kept in store.

However, there were exceptions as some TVET institutions appeared to have adequate information and communication technology facilities as indicated by the participant below.

> In our college, we have enough information and communication technology facilities like computers and projectors. We have four well-equipped computer rooms where students go and do their assignments and over eighty percent of the staff, academic and non-academic, have been given a laptop each. Some departments have been provided with projectors to aid the teaching process (Participant 11: Nigeria).

The responses revealed that information and communication technology facilities are available in this particular institution. The institution gave computers to most of the staff while some classes were equipped with computers for students' use to facilitate the learning process. Projectors were also provided for lecturers to facilitate the teaching processes. Information and communication technology improves both the teaching and the learning processes and also motivate both the lecturers and students.

4.8   Quality assurance through monitoring, supervision and inspection

No specific mention is made in the integrated *National Policy* document of how monitoring, evaluation and quality assurance should be incorporated in the TVET system, but here too the general comments about monitoring, evaluation and quality assurance are clearly applicable also to the TVET sector.

The *National Policy* assigns implementation of quality assurance through monitoring, supervision and inspection of education and training systems to a body of inspectors, indicating that an effective inspectorate division should be introduced at all tiers of government, comprised of competent inspectors able to effectively monitor, supervise, inspect and maintain standards in all education and training systems below the higher education level:

> Government shall establish efficient inspectorate services at federal, state and local government levels for monitoring and maintaining minimum standards at all levels of education below the tertiary level. State ministries of education and local education authorities in collaboration with the federal inspectorate service, shall be responsible for the organisation of supervision and inspection of all educational institutions under their jurisdiction (FRN, 2004, p. 59).

> The goals of the inspectorate services shall be to:- set, maintain and improve standards in all aspects of the school system; ensure uniform standard and quality control of instructional activities in schools through regular inspection and continuous supervision (2004, p. 60).

The *National Policy* recognises the need for partnership between the federal inspectorate division and state and local education departments, indicating that education departments at state and local government levels should partner with the federal inspectorate division and plan how to supervise and inspect institutions under their authorities, and should develop guidelines for this task. The *National Policy* also assigns responsibility to the inspectorate division for developing quality standards for all institutions within its scope and ensuring that these standards are maintained. The inspectorate division should supervise and inspect all teaching and learning activities with a view to providing positive advice and should be able to obtain information in respect of difficulties experienced by staff and school management and provide advisory solutions through appropriate authorities.

Having recognized the need for coherence and quality in the technical and vocational education and training system, TVET regulatory body (NBTE) spearheaded the establishment of National Vocational Qualifications Framework (NVQF) and was approved by the Federal Executive Council (NBTE, 2011). The National Vocational Qualifications Framework is intended to improve the quality of technical and vocational education and training through strengthening linkage between training providers and industry, providing efficient system of assessing experiential learning, providing a system for up-skilling and re-skilling of the workforce and expanding access to education and training.

Interview conducted with practitioners of technical and vocational education and training revealed that the establishment of the National Vocational Qualifications Framework (NVQF) was faced with the challenge of implementation.

> You see the problem with government is that they would introduce something but would not implement it. As I am talking to you now, we are not even aware that national vocational qualifications framework has been approved. What we know is that NBTE is responsible for maintaining standards of TVET provision outside universities (Participant 10: Nigeria).

> We are affiliated to a university so they accredit, coordinate and supervise our TVET programmes (Participant 9: Nigeria).

Assuring and maintaining uniform quality and standard of TVET provision is a challenge in the technical and vocational education and training sector. Responses of the TVET practitioners indicated that technical and vocational education and training at different levels of provision is quality assured by different bodies and institutions. Universities supervise and quality assure TVET provisions affiliated to them and National Board for Technical

Education (NBTE) ensuring and maintaining standards of TVET provision outside university provisions. Maintaining uniform quality and standard of provision under different supervisory bodies is a challenge to the TVET sector.

4.9 Assessment: centralised TVET examinations and certification

The *National Policy* spells out the role of the National Business and Technical Examinations Board (NABTEB) in the management, supervision and conduct of centrally controlled TVET examinations in TVET institutions and in the award of stipulated certification to qualifying students:

> The National Business and Technical Examinations Board (NABTEB) shall handle technical and business examinations and award the National Technical Certificate (NTC), the National Business Certificate (NBC), the Advanced National Technical Certificate (ANTC) and Advance National Business Certificate (ANBC)/Modular Trade Certificate. (FRN, 2004, p. 34).

The Board is also tasked with collecting and keeping records of each student's continuous assessment.

The nationally controlled examination system should be able to improve the quality and standards of TVET certification and of the system generally.

Interview with technical and vocational education and training practitioners indicated that National Business and Technical Examination Board (NABTEB) is responsible for setting and conducting examinations in all technical colleges in Nigeria.

> …when it comes to final examinations, NABTEB set all the questions for all technical colleges in Nigeria and the exams are written on the same day for each subject across the country…examinations do not usually start as indicated on the time table (Participant 10: Nigeria).

The responses indicated that all final examinations leading to the award of National Technical Certificate (NTC); National Business Certificate (NBC); Advanced National Technical Certificate (ANTC) and Advanced National Business Certificate (ANBC) are nationally and centrally conducted by the Board. According to the participant, the examinations are conducted on the same day and time for each subject.

However, challenges associated with the centrally coordinated examinations as indicated by participant 10 above include late arrival of question papers to the schools and examination venues. Since the final examinations are nationally and centrally coordinated, examinations do not usually start as scheduled due to late arrival of the questions.

4.10   Centrally coordinated partnership between industry and TVET institutions

The *National Policy* urges support for partnership between TVET institutions and industry. Among the benefits of such a partnership would be facilitated placement of students in industry for the student industrial work experience scheme (SIWES), which is a programme that attaches students with workplaces so that they can acquire practical industrial skills and experiences and develop good work habits:

> Cooperation between industries and institutions in training shall be encouraged. Industrial Training Fund (ITF) shall organise staff and students industrial attachment as appropriate and in collaboration with the proprietors, institutions and industries (FRN, 2004, p. 35).

The *National Policy* also recognises the need for central coordination of the student industrial work experience scheme in its stipulation that the Industrial Training Fund (ITF), an agency responsible for skills training and development in Nigeria, should plan and coordinate both the student industrial work experience scheme and the placement of staff in the industry. Attachment of TVET teachers in industry would improve and update their skills and knowledge by exposing them to technological innovations and new knowledge and skills. The system of a central body to coordinate placement of students and staff in industry would also strengthen partnership between the two sectors.

Responses of a technical and vocational education and training lecturer at a technical college indicated that students go for industrial attachment for the purpose of applying what has been learnt in the working environment.

> We send our students for industrial attachment for a period of six weeks during long vacation in their final year. The exercise gives them opportunity to put what they have learnt into practice and to acquire more skills (Participant 10: Nigeria).

According to the participant, the student industrial work experience scheme (SIWES) provides students opportunity to improve on their skills, acquire more knowledge and apply what have been learnt in the classroom practically. The students were allowed to go for the attachment in their final year of study for a period of six weeks.

106

Identifying relevant industry and accepting students for the industrial attachment were among the challenges confronting the student industrial work experience scheme (SIWES).

> Our students find it difficult to identify relevant places for the attachment (Participant 10: Nigeria).

> When students approach companies or industries for their industrial attachment, the companies reject some of them (Participant 12: Nigeria).

Responses of the participants above revealed that students go from one industry to the other looking for acceptance for the industrial attachment exercise. The responses also indicated that the students were not easily accepted by the industries for the attachment. Partnership between TVET institutions and industry would facilitate student placement for industrial attachment.

4.11   Minimum entry requirements and sites for TVET delivery

The *National Policy* stipulates that the Junior Secondary Certificate is the minimum requirement for entry into pre-tertiary TVET institutions, indicating that a junior secondary education should provide basic and general knowledge about diverse career opportunities, develop interest among students in TVET, and give them opportunities for making a career choice from a range of occupational fields.

> Minimum entry requirement into the technical college shall be the Junior School Certificate (JSC). Entry could also be based on evidence of aptitude shown in the technical courses and a reasonably good performance in mathematics and science. Students who have proved exceptionally able in the artisan training centres shall also be considered for admission (FRN, 2004, p. 32).

> Trainees completing technical college programmes shall have three options...pursue further education in advance craft/technical programme and in post-secondary (tertiary) technical institutions such as Science and Technical, Polytechnics or Colleges of education (technical) and universities (2004, p. 31-32).

The *National Policy* indicates that additional admission criteria for TVET colleges could be good performance in a standardised test designed for the various trades, good performance in academic subjects like mathematics and science, or good performance in skill acquisition centres. The *National Policy* designates different types of institutions for delivery of TVET: technical colleges and artisan training centres at the pre-tertiary level, and universities, colleges of education (technical) and polytechnics at the tertiary level.

National Policy on Education (FRN, 2004) indicates that entry requirements into technical college include Junior School Certificate (JSC) and exceptional performance in Artisan Training Centres.

Interview conducted with a technical and vocational education and training lecturer at a technical college revealed that admission into technical colleges is based on Junior School Certificate and an aptitude test for candidates who want to go into engineering.

> Requirement for admission into technical colleges is Junior School Certificate and an aptitude test for engineering students. Candidates with Senior Secondary Certificates are also admitted if they seek admission here (Participant 10: Nigeria).

According to the participant, candidates who have finished senior secondary school in the traditional school system and have obtained the senior school certificates, equivalence of grade 12, are also given admission.

However, in practice, several students get admissions into technical and vocational education and training institutions at different levels without meeting the admission requirements.

> Some students perform badly because they come here without meeting the admission requirements. They had no good foundation (Participant 12: Nigeria).

> A lot of students you see around were admitted without requirements (Participant 10: Nigeria).

Responses of the participants indicated that some students enter technical and vocational education and training institutions without fulfilling the admission requirements. Students without good academic foundation do not perform well academically.

4.12   Planning and administration of teacher education

No specific mention is made in the integrated *National Policy* document about how planning and administration of teacher education should be incorporated in the TVET system, but the general comments about teacher education also apply to the TVET sector. Absence of clear direction and policy guidelines on TVET teacher education would affect the development and progress of technical and vocational education and training. Policy guidelines on TVET teacher education would provide a focus, programmes and direction for present and future development needs of the TVET teachers

The *National Policy* notes the importance of teacher education in the total education and training system, noting that the quality of teachers always determines the quality of education and training delivered in the system:

> Since no education system may rise above the quality of its teachers, teacher education shall continue to be given major emphasis in all educational planning and development. The minimum qualification for entry into the teaching profession shall be the Nigeria Certificate in Education (NCE) (FRN, 2004, p. 39).
>
> All teachers in educational institutions shall be professionally trained. Teacher education programmes shall be structured to equip teachers for the effective performance of their duties...Teacher education shall continue to take cognisance of changes in methodology and in the curriculum. Teachers shall be regularly exposed to innovations in their profession (pp39-40). It is imperative that teachers in professional fields have relevant industrial and professional experience (FRN, 2004, p. 38).

The crucial dependence on quality of teachers for the quality of the entire education and training system implies that the quality of TVET teachers fundamentally determines the quality of the TVET system. In recognition of this factor, the policy emphasises the need for development of teacher education and of continuing professional development of teachers at all levels of education.

The Nigeria Certificate in Education (NCE) is specified in the *National Policy* as the minimum qualification for the teaching profession. In further acknowledgement of the importance of continuing professional development for all teachers, the *National Policy* also requires that teacher education should equip teachers to bring about desired changes in the education system, indicating that teacher-education programmes need to be flexible in accommodating new developments and improvements in the education and training systems. The policy document also mentions the need for teachers to participate in the industrial work experience scheme, with industry placement essential for acquisition of relevant experience where they have can discover new knowledge, skills and competencies that would improve their performance in the classroom.

4.13   The goals of teacher education in Nigeria

The aims of teacher education in all education and training systems and at all levels in Nigeria, as set out in the *National Policy* document, are to develop professional teachers who are professionally competent and well equipped with the appropriate professional and

pedagogical knowledge, skills, and attitude or values for the effective performance of their duties:

> The goals of teacher education shall be to:- produce highly motivated, conscientious and efficient classroom teachers for all levels of our educational system; encourage further the spirit of enquiry and creativity in teachers; help teachers to fit into social life of the community and the society at large and enhance their commitment to national goals; provide teachers with the intellectual and professional background adequate for their assignment and make them adaptable to changing situations; enhance teachers' commitment to the teaching profession (FRN, 2004, p. 39).

The *National Policy* stipulates that teacher-education programmes should motivate teachers and also provide continued professional development with in-service training opportunities for them to update and acquire new knowledge, skills and competencies.

Broader goals for teacher education embodied in the *National Policy* are: social skills promoting peaceful and harmonious co-existence of teachers with people in the community; comprehensiveness in scope that will equip teachers with good general knowledge as a foundation for professional development; flexibility in accommodating new developments; and motivation of teachers for on-going improvement of their performance.

4.14   Challenges of TVET practice in Nigeria

TVET practice in Nigeria is surrounded by challenges that have become a barrier towards the provision and delivery of qualitative and responsive technical and vocational education and training in the country. Interview conducted with TVET practitioners and stakeholders in Nigeria revealed that challenges surrounding TVET practice and provision in the country include the following:

- Governance

- Inadequate funding

- Inadequate teaching and learning facilities

- Poor public perception of the TVET sector

4.14.1   Governance

Interview with TVET practitioners and stakeholders in Nigeria revealed that governance of technical and vocational education and training in Nigeria varies from one level to the other and from one institution to the other particularly in the universities.

> …governance of the sector is done differently based on levels and institutions, particularly universities. Here in Nigeria, technical and vocational education and training outside university provision is governed, coordinated and overseen by the National Board for Technical Education while each university oversees and coordinates its TVET programmes and provision… undergraduate TVET programmes in Colleges of Education (Technical) are coordinated by universities where the programmes are affiliated while TVET programmes at NCE level are coordinated by the National Commission for Colleges of Education (NCCE). (Participant 9: Nigeria).

Responses of the participant indicated that technical and vocational education and training provision in technical colleges and polytechnics is governed by National Board for Technical Education (NBTE). TVET programmes in universities are supervised, coordinated and overseen by the individual universities. The responses indicated that technical and vocational education and training programmes offered in Colleges of Education (Technical) are coordinated and supervised by two different bodies; the universities where the programmes are affiliated for the undergraduate programmes and National Commission for Colleges of Education (NCCE) for the NCE programmes.

Provision of technical and vocational education and training under different coordinating institutions and bodies would pose the problem of quality and standard. Maintaining same quality and standard with different coordinating institutions and bodies is a challenge for the TVET sector.

Other challenges of governance in the technical and vocational education and training sector include differences in the period of time spent during student industrial work experience scheme (SIWES) from one institution to the other. Responses of the participants revealed that SIWES governance varies from one institution to the other. Participant 10 explained that in their college, students spend six weeks during long vacation on industrial attachment while in other TVET institutions, the period of time students spend on industrial attachment range from four weeks to four months.

We send our students for industrial attachment for a period of six weeks during long vacation (Participant 10: Nigeria).

Industrial attachment lasts for four months so that students would adequately understand the practical aspect of what we teach them in the classroom (Participant 11: Nigeria).

The participants' responses above indicate that the period of time allocated for students industrial attachment differ from one TVET institution to the other depending on the level of provision. Differences in programmes at the same level of TVET provision is a challenge to the governance of the system. Variations in times and periods spent during industrial attachment in different institutions as indicated by responses of participants 10 and 11 was also noted by participant 12. According to participant 12, TVET institutions organize and send their students for industrial attachment at different times and the periods vary from one institution to the other.

Responses of the TVET practitioners in Nigeria also indicated that appointments of unqualified personnel to govern and administer technical and vocational education and training also constitute a challenge for the entire TVET system.

Government contributes to the problems of the sector through appointing people without technical background from other departments to head TVET sector and other departments (Participant 9: Nigeria).

According to the participant, technical and vocational education and training departments and institutions would better be headed or led by professionals who have technical background and therefore noted that appointing or allowing officers without technical knowledge to head technical institution or department is a challenge. Similarly, participant 11 also stated that ―... authorities erroneously appoint unqualified people to head technically oriented institutions". According to him, people without technical background could not effectively head or manage technically oriented institutions as they are not professionals in the field and therefore would not know or understand some challenges in the sector.

4.14.2   Inadequate funding

Interview conducted with TVET practitioners and stakeholders in Nigeria revealed that technical and vocational education and training is not sufficiently funded in the country. According to the participants, funds allocated to the TVET sector is not enough to carter for

the needs of the sector for the provision and delivery of quality and responsive TVET programmes.

> Most of the departments lack adequate teaching materials due to lack of adequate fund. The school authority used to provide adequate funds for all departments some years back but things have now changed. The departments cannot even afford to repair damaged machines or replace worn tools (Participant 10: Nigeria).

> However, more funding is necessary for the improvement of the entire TVET sector (Participant 9: Nigeria)

Responses of the TVET teacher indicated that grant allocation to departments for the procurement of teaching and learning facilities was grossly inadequate. He lamented that damaged and worn tools could not be repaired or replaced due to inadequate funding. Lack of teaching and learning facilities is capable of affecting the quality of TVET programmes and provision, which would affect the quality and responsiveness of the TVET system as a whole

According to the participants, more funds for technical and vocational education and training would improve the quality and responsiveness of the entire TVET system. With adequate funding, the quality of teachers would be improved, teachers would be adequately motivated, adequate teaching and learning facilities would be procured and the quality of TVET programmes and provision would be improved.

4.14.3 Inadequate teaching and learning facilities

One of the challenges of TVET practice in Nigeria is inadequate teaching and learning facilities. Interview conducted with practitioners and stakeholders of technical and vocational education and training in Nigeria indicated that providers of technical and vocational education and training lack adequate facilities necessary for effective teaching and learning.

> Most of the departments lack adequate teaching materials due to lack of adequate funds…You see, almost all machines in the workshops are either broken, worn or out-dated and skills can never be properly taught or acquired without appropriate facilities (Participant 10: Nigeria).

> Modern training materials should be provided to meet up with the changing technologies in TVET institutions (Participant 11: Nigeria).

Participant 10 attributed the lack of adequate teaching and learning facilities to insufficient funding of technical and vocational education and training and also lamented on the deplorable condition of the available facilities in the school laboratories. According to him, the available teaching and learning facilities seen in the workshops were mostly out of use and therefore noted that responsive skills would only be achieved when appropriate and adequate facilities are provided.

Similarly, Participant 11 noted that technical and vocational education and training institutions should be adequately equipped with up-to-date facilities so as to meet up with the skills requirements of the fast changing technologies and economy. Also lamenting on lack of adequate teaching and learning facilities, participant 9 indicated that even though facilities for teaching and learning were provided, more facilities are required for the delivery of qualitative and responsive technical and vocational education and training.

4.14.4 Poor public perception of the TVET sector

Interview conducted with practitioners of technical and vocational education and training in Nigeria indicated that the society has negative perception of the technical and vocational education and training sector. Such negative perception has positioned technical and vocational education and training as a sector for the academically challenged; a sector with low status and a sector misconceived by the society

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4.14.4.1 A sector for the academically challenged

Responses of the participants revealed how technical and vocational education and training was perceived by the society in Nigeria. According to the participants, the society perceives technical and vocational education and training as a sector designed for students who have academic deficiencies.

However, the society sees technical and vocational education and training as a sector established for students who do not have the ability to proceed to universities (Participant 12: Nigeria).

They always think it is training for those who cannot perform and people dropped out from the traditional school system (Participant 9: Nigeria).

Responses of the participants indicated that students who go to technical and vocational education and training institutions were considered as those who could not perform well academically, people with low or poor grades who could not make it to universities. The sector was also seen as a place designed for students who were withdrawn from the traditional school system either for poor academic performance or for disciplinary reasons. Technical and vocational education and training was also perceived as a place for the less-privileged and of poor economic background. This is an indication that the society has negative perception towards the TVET sector.

4.14.4.2 A misconceived sector

Interview conducted with technical and vocational education and training practitioners in Nigeria revealed that the public have wrong impression or idea of what constitute TVET curriculum.

> the notion some people hold that TVET curriculum comprises of practicals with little or no theory is a baseless assumption. Those people do not know the content of the curriculum but because the system focuses on skills development and acquisition, they think what we do or teach is only workshop practice. What we do is more than teaching workshop practice only. The curriculum also comprises of theory or general education, which include subjects like Mathematics, English, Physics and so on (Participant 11: Nigeria).

The responses revealed that the public is ignorant of the content of TVET curriculum. According to the participant, technical and vocational education and training curriculum comprises of both practice and theory. Traditional subjects that would promote and facilitate the development and understanding of skills are integrated in TVET curriculum. The responses also indicated that science-based subjects, which explain the nature of materials are also an integral part of the curriculum.

The next chapter considers Technical and Vocational Education and Training in Ghana.

Chapter 5
Technical and Vocational Education and Training in Ghana

5.1   Introduction

The previous chapter having considered Technical and Vocational Education and Training in Nigeria, this chapter presents an analysis of Technical and Vocational Education and Training in Ghana.

5.2   TVET governance in Ghana

Ghana's TVET policy document – the *TVET Policy Review Draft Final Report*, hereafter referred to in this chapter as the *Policy Review*, or the *Review* – notes the role in TVET governance of the Council for Technical and Vocational Education and Training (COTVET), which was established by an Act of Parliament (Act 718) to steer the affairs of the TVET sector in recognition of the high national priority given to the sector. The TVET Policy Review indicates this in the following terms:

> the Government of Ghana by an Act of Parliament (Act 718) established a Council for Technical and Vocational Education and Training (COTVET) to co-ordinate and oversee all aspects of technical and vocational education and training in the country. The COTVET Act made provision for the establishment of a Board with representation from key stakeholders including government, employer organisations, the private sector, labour organisations and TVET providers to govern.... The Council for Technical and Vocational Education and Training in accordance with its Act operates under the Ministry of Education (COTVET, 2012, pp. 29–30).

A governing Board for technical and vocational education and training would be established by COTVET, as provided in the COTVET Act, with Board members drawn from major TVET stakeholders and including employer organisations, government, labour organisations, private sector entities, and TVET providers. The COTVET Act established three standing Committees to address technical issues relating to COTVET's mandate.

- The National Technical and Vocational Education and Training Qualifications Committee (NTVETQC)

- The Industrial Training Advisory Committee (ITAC) and

- The Training Quality Assurance Committee (TQAC) (COTVET, 2012, p. 30).

Technical and vocational education and training would be governed by the Board under the supervision of COTVET, which in turn would perform its regulatory function under the Ministry of Education.

The national TVET Qualifications Committee advices COTVET on the development and maintenance of a credible, effective and efficient qualifications framework for the TVET system. Training Quality Assurance Committee (TQAC) ensures that training providers and qualification awarding agencies maintain approved standards. Industrial Training Advisory Committee develops national occupational standards for the definition and issuance of qualifications. Skills Development Fund Committee ensures that the Skills Development Fund becomes an efficient vehicle for strengthening the skills and competence of the labour force; and National Apprenticeship Committee develops policies for the implementation of apprenticeship in the country (Ansah & Ernest, 2013; Baffour-Awuah, n.d.)

Interview with a senior member of the Council for Technical and Vocational Education and Training (COTVET) in Ghana indicated that COTVET was established by the government of Ghana and charged with the responsibility of coordinating, regulating and overseeing all aspects of technical and vocational education and training in the country.

> You see, TVET in Ghana is delivered by different ministries and agencies including the private sector under different conditions, administrations and standards. In order to bring coherence and unify the system, COTVET was established by the government to coordinate and oversee all aspects of technical and vocational education and training in the country including policy formulation for the sector. This includes both public and private sectors (Participant 5: Ghana).

The responses of the participant revealed that technical and vocational education and training in Ghana is delivered by various agencies and ministries. In an effort to centralize and nationalize all TVET provisions in the country, the government established the council for technical and vocational education and training (COTVET) with the view to centrally and nationally coordinate and regulate all aspects of technical and vocational education and training in the country.

The functions of the Council include regulating the provision of technical and vocational education and training in both the public and private sectors. The responses also indicated that the Council is also expected to formulate policy for the TVET sectors.

However, the participant revealed that in practice, governance of technical and vocational education and training at tertiary level is the responsibility of the institutions, which contradicts the mandate of the Council for Technical and Vocational Education and Training (COTVET), which indicates that the council should coordinate and regulate all aspects of TVET provision in Ghana. This is a challenge for the TVET sector in Ghana.

> … one of the regulatory challenges the Council is facing is that at the tertiary level, TVET is regulated and overseen by the various institutions based on the Acts that established them (Participant 5: Ghana).

Council for technical and vocational education and training was established by an Act of the Parliament to oversee and regulate all aspects of TVET provision in Ghana and TVET delivery at the tertiary level is also governed by Acts that established the institutions. This poses a challenge for COTVET. Other challenges associated with TVET governance as noted by the Participants include the appointment of officials who are not professionals in technical and vocational education to head some units in the TVET sector.

> …you see, some of our problems are caused by our leaders because they are not professionals in technical education (Participant 6: Ghana).

According to the participant above, technical and vocational education and training should be better administered or governed if the heads of units at managerial level are people with technical background and professionally trained. Similarly, participant 8 also stated that ―some of our leaders don't know what is good for us because they are not trained technically". Governance of technical and vocational education and training should comprise of all TVET stakeholders including TVET professionals at all levels. Provision and delivery of technical and vocational education and training by several departments and agencies including private sector also poses quality challenge in Ghana. Participant 5 explained that technical and vocational training is delivered by different ministries, departments and agencies under different conditions and policies, which lead to the production of graduates with different qualifications and qualities.

5.2.1 TVET governance at institutional levels

The mode of governance of TVET at the institutional level varies between private and public institutions. The *Policy Review* indicates that private TVET institutions would be governed by the organisations that established them:

> The governance structures at private institutions are guided primarily by the bodies that set-up the institutions...the private operators would appreciate guidelines from COTVET to facilitate their operations. For the public institutions, most of them are governed by the various MDAs policies, directives and guidelines. For example, in the GES Technical Institutes the policies and guidelines for running the institutes are almost the same as used for the general academic secondary schools (COTVET, 2012, p. 31).

Proprietors of private TVET institutions develop guidelines that direct the affairs of their institutions. COTVET is required to provide regulatory operational guidelines for the private TVET providers for the purpose of maintaining standards. Public TVET institutions are governed by the policies, directives and guidelines issued by the respective ministries, departments and agencies that established the institutions. Some TVET institutions have policies similar to those of conventional secondary schools. In terms of the policy, the guidelines governing the provision of TVET by the Ghana Education Service resemble the guidelines and policies for running traditional academic secondary schools.

5.2.2 Governance of the informal TVET sector

The informal TVET sector is given strong recognition and considered effective in providing skills and competencies to apprentices. Acquisition of skills in the informal TVET sector is to take place under the supervision of a master craftsperson (MCP), who is expected to organise, control and direct the learning activities that would lead to the acquisition and development of the needed skills and competencies:

> The traditional informal sector is operating effectively in terms of the MCP passing on skills to the apprentices and is self-regulating. What is required is COTVET providing support by building its capacity with current and relevant technology and entrepreneurship. COTVET has already established the NAC to be responsible for the informal sector training. The NAC working with the relevant Trade Associations should enable COTVET regulate and offer relevant support to the already effective self- financing informal training sector (COTVET, 2012, p. 32).

The master craftsperson regulates the learning activities, the number of people required and the training fee for each apprentice.

In acknowledging the role of the informal TVET sector in the provision of employable skills, the *Policy Review* also recommends that the sector should be supported by COTVET and its capacity improved through the introduction of new skills and new technologies. The sector needs to be kept abreast of the changing needs of the labour market so that the skills and competencies it delivers remain relevant and responsive.

In the course of policy development and the drawing up of guidelines for the informal TVET sector, a National Apprenticeship Committee (NAC) was established by COTVET with responsibility for developing policies to guide the provision of TVET in the informal sector. The committee would collaborate with relevant professional associations and provide an enabling environment for COTVET to regulate the sector effectively.

5.3   TVET philosophy in Ghana

The philosophical principles underpinning TVET in Ghana are linked to national development and transformation, founded on a social justice agenda, prioritising of responsive TVET, and production of internationally competitive human resources:

> [O]bjectives for the review of the 2004 TVET Policy [are] to adequately guide the TVET system in Ghana to be: demand-driven, competency-based training (CBT) oriented, an avenue for poverty reduction and job creation, and finally, meet international standards as it relates to Ghana (COTVET, 2012, p. 14).

> TVET system that produces a globally competitive workforce through quality oriented and demand-driven learning for national development (2012, p. 24).

In addition to the already-mentioned goal of producing an internationally competitive workforce, the *TVET Policy Review* indicates that the goal of TVET should be to provide skills and competencies that will develop individuals as sound and effective citizens, equipping them with skills and competencies that will integrate them into the labour market. Remuneration from meaningful employment will raise their standard of living and alleviate poverty.

Noting the imperative of skills development and provision, Ghana's 2004 TVET policy (GoG, 2004) indicates that TVET in Ghana aims at improving productivity and competitiveness of the skilled workforce and to raise the income-earning capacities of citizens through the provision of quality-oriented, competency-based and lifelong training programmes.

Also mentioned as a guiding principle is that transformation in TVET should involve a shift from supply-driven approach, where TVET programmes are dictated by TVET providers, to a demand-driven model, where programmes are dictated by the industry:

> The reform of TVET requires a change from a supply to a demand oriented system capable of integrating learning occurring in different contexts. To enable this transformation, a modular CBT approach and a TVET Qualification Framework were recommended for TVET (COTVET, 2012, p. 27).

Demand-driven TVET programmes need to harmonise the different sectors in the TVET system (formal, non-formal and informal TVET). Provision of skills and competencies in each of these sectors would be incorporated in the competency-based education and training system. The new modular CBT approach would be located under the TVET Qualification Framework, which is likely to bring coherence to the whole TVET system.

Interview conducted with a TVET practitioner revealed that Ghana's technical and vocational education and training philosophy is based on the development of a TVET system capable of producing responsive and internationally competitive workforce through competency-based technical and vocational education and training approach.

> …reform in the system is intended to develop a system capable of producing skilled workforce that can compete at international level… provide skills for employment, poverty alleviation and economic development through competency-based education and training (Participant 5: Ghana)

The responses indicated that the reform in the technical and vocational education and training system is to develop a TVET system with the capacity to produce a globally competitive workforce and provide skills required for employment with the view to alleviating poverty. The system is also intended to provide skills for socio-economic development of the country.

However, interview conducted with practitioners of technical and vocational education and training in Ghana indicated that TVET lecturers were not prepared for the competency-based education and training and skills acquired by graduates of technical and vocational education and training were not responsive to the needs of the industry.

> … teachers are not fully prepared for the implementation of the competency-based approach… not all skills acquired by the students are useful or needed by the companies. (Participant 6: Ghana).

Technical and vocational education and training sector is faced with the challenge of providing skills that are responsive to the needs of the market as some skills acquired by TVET graduates are not responsive to the needs of the economy. Unresponsive TVET programmes imply that the programmes were not demand-driven and therefore could not earn employment for the graduates. Participant 7 also indicated that the quality of TVET provision was poor, making it difficult for the graduates to get employed or be self-reliant.

5.4   Goals of TVET in Ghana

The *TVET Policy Review* identifies five distinct goals of TVET in Ghana, broadly concerned with development of human resources, producing a responsive workforce for the labour market, and providing knowledge, skills and attitude for long-term employment in the labour market. The five specifically cited goals are as follows:

> Create a flexible human resource supply; Produce a high quality skilled workforce; Increase income-earning capacities, through skill training, life-long learning and integration into the modern economy; Contribute to increased foreign exchange earnings; Contribute to the maintenance of economic and political stability (COTVET, 2012, p. 24).

Improvement of earnings through foreign exchange would be achieved through providing skills necessary for economic, social and technological developments that would lead to national and international development, collaboration and competitiveness. TVET also aims at sustaining economic development through the provision of skills that would be responsive to the needs of the economy. Sustaining and maintaining the economy would require equipping the workforce with relevant skills necessary for moving the economy forward. The policy recognises that the goal of TVET should be to contribute to national development and stability, and this would be achieved by empowering the society with employable skills that would make individuals useful members of the society. Production of high quality skilled workforce is intended to improve and develop the economy and make Ghana's industries more competitive both locally and internationally (GoG, 2004).

However, responses of practitioners of technical and vocational education and training in Ghana indicated that the quality of TVET graduates is low and cannot compete at international level. According to the participant, employers of labour complain about the unresponsiveness of the skills possessed by graduates of technical and vocational education and training.

> The training students receive here is of poor quality and even employers complain about their quality. I think inadequate training facilities and unqualified teachers are the cause of this problem (Participant 7: Ghana).

Production of high quality skilled workforce can be achieved through the provision of qualitative education and training, which would in turn, require adequate teaching and learning facilities as well as qualified teachers. Poor quality training is an obstacle to the provision of skills necessary for employment and poverty alleviation and for production of responsive workforce that can compete internationally. The participant indicated that poor quality training would be attributed to lack of adequate teaching and learning facilities.

5.5   Funding TVET in Ghana

5.5.1   General TVET funding

The need for adequate funding of TVET is noted in Ghana's TVET Policy Review (COTVET, 2012) and 2004 TVET policy (GoG, 2004). Adequate emoluments for TVET personnel would motivate staff and increase productivity of workers:

> The TVET policy emphasises the fact that quality TVET requires considerable amounts of expenditure on equipment, training facilities, personnel emoluments and teaching and learning materials. The Government alone cannot adequately finance TVET and therefore sustainable sources of funding are required to expand access and at the same time meet international quality standards (COTVET, 2012, p. 38).

The TVET policy review recognises that TVET is an expensive sector which requires more funding resources than government alone can supply. Just as TVET is required for sustainable development, funding is required for sustainable TVET – the return in this case being greater access to TVET and improved quality of what is offered that brings it in line with international standards.

Ghana's TVET policy documents (COTVET, 2012; GoG, 2004) indicate that funding resources should be extended by establishing trust funds and seeking contributions from TVET stakeholders. The main sources of funding will be direct budgetary allocations to the TVET sector by government, together with allocations from the Ghana Education Trust Fund and from district assemblies:

TVET Policy recommended various sources for ensuring sustainable funding to support TVET delivery. The key ones include: Increased direct Government of Ghana budgetary allocations including a percentage allocation from the GETFund and District Assemblies; Establishment of a Skills Development Fund (SDF) with member industries and businesses contributing 1% of their total payroll. Labour unions and trade associations shall contribute 0.5% of their total membership contributions; Establishment of a Ghana Patrons' TVET Fund to mobilise foreign revenue to support skill training; Public and private institutions will be encouraged to mobilise resources especially from the private sector and external sources; User fees charged in public institutions will be increased steadily towards the recovery of recurrent costs. (COTVET, 2012, p. 38).

Other measures for sourcing funds would include the formation of a Skills Development Fund with industries and other business organisations as contributing members of the Fund. Compulsory contributions would be required from labour unions and trade associations. External, foreign revenue contributions would be solicited through an envisaged Ghana Patrons' TVET Fund. Public and private TVET institutions would be expected to seek financial support from the private sector in addition to training fees collected from trainees.

Skills Development Fund (SDF) is an initiative of the government of Ghana established to provide sustainable funding for skills development under the auspices of the Council for Technical and Vocational Education and Training (COTVET). Sources of funds for the Skills Development Fund include government of Ghana, levies and development partners, and the fund is used to support the development and provision of technical and vocational education and training at various levels (GoG, 2004; COTVET, 2012).

Interview with TVET practitioner in Ghana revealed that the technical and vocational education and training sector is grossly underfunded in the country.

Funding technical and vocational education in this country is a serious problem. No grant for improvement. They don't allocate grant for attending conferences and workshops; even when they do, it would be too meagre. We have no money to fix our machines when they get bad talk less of buying new ones. They are only managing to pay us our salaries (Participant 7: Ghana).

Responses of the TVET practitioner revealed that developmental grant has not been forthcoming for their institution. The responses indicated that there was little or no grants for staff developments like attending conferences and workshops. Teaching and learning facilities could not be repaired when they get bad due to lack of funding and new equipment not also be procured. According to the participant, the government would only try to pay staff salaries as at when due.

Similarly, while commenting on funding of technical and vocational education and training in Ghana, participant 6 indicated that technical and vocational education and training was grossly underfunded while participant 8 explained that lack of adequate funding led to the shortage of information and communication technology facilities. Inadequate funding would lead to inadequate teaching and learning facilities, which would lead to poor quality provision and TVET graduates. However, Participant 5 explained that with the establishment of the council for technical and vocational education and training, TVET funding would improve as government is now making effort to ensure that the sector is adequately funded.

5.5.2 *Private sector TVET funding*

The TVET *Policy Review* notes that substantial TVET provision takes place in the private sector, where it is not financially supported by government. These private TVET providers generate their funding in a variety of ways:

> Substantial TVET provision is undertaken by the private sector with no government support. Tuition fees vary substantially between public, private not for-profit and private for-profit institutions, and depend on the training programme.... TVET programmes provided by NGOs and church-related institutions are usually less expensive than for private for profit providers. If training is geared towards formal qualification, additional examination fees are charged (COTVET, 2012, p. 40).

Training fees charged by private and public institutions are not the same. Private TVET providers established for profit charge higher training fees than do private TVET providers not established for profit (such as church-related institutions and non-governmental organisations), and fees also differ according to the specific training programme in which the student is enrolled. Fees for training programmes that lead to a formal qualification attract an additional examination fee.

5.6 Competency-based TVET curriculum

The value of cooperation and collaboration between TVET institutions and industry in developing a competency-based curriculum is recognised in Ghana's TVET policies:

> As a quality measure, training providers in co-operation with industry should strive towards CBT curricula and delivery (COTVET, 2012, p. 63)

> [A] competency-based curriculum can improve access and equity whilst at the same time contributing to system efficiency by reducing the repetition of skills already acquired (COTVET, 2012, p. 53)

Strengthen links between training institutions and industry through- formation of advisory committees; improved organization of industrial attachment (GoG, 2004, p. 10).

Competency-based education and training requires active participation of industry in the development of demand-driven TVET programmes, with optimised and equitable access, that would equip individuals with skills and competencies required by the industry and the economy. Placement of students in industry in form of industrial attachment provides opportunity for students to apply the knowledge acquired in classroom in a practical situation. Industrial attachment of students provides opportunities for participating industry to identify potential talents through assessing student's performance at the work place. Competency-based training should improve efficiency in the TVET system. Efficiency would be improved by reducing the tendency to repeat training in skills that have been already acquired.

Responses of interview conducted with technical and vocational education and training practitioner in Ghana indicated that the competency-based TVET curriculum is still not operational in all TVET institutions under the auspices of the council for technical and vocational education and training (COTVET).

> The competency- based training was only tried in few institutions and it has not been extended to majority of technical institutes and colleges because the staff, I mean teachers are not fully prepared for the implementation of the competency-based approach. Even the people on top are not fully ready. You see, this approach requires participation of the industries but they are still not ready (Participant 6: Ghana).

The responses revealed that majority of technical institutes and colleges seem not to be ready for the implementation of the competency-based TVET curriculum. According to the participant, the competency-based TVET curriculum has only been tried in few technical schools. The participant noted that the technical and vocational education and training teachers as well as the regulatory body were not fully ready for the competency-based TVET approach.

5.7 Improving relevance through information and communication technology

Ghana's TVET policy review notes the increasing importance of ICT and recommends that it should be integrated in the TVET curriculum and learning processes:

ICT needs to be embedded in curriculum and learning processes in TVET as it begins to penetrate in industry sectors (COTVET, 2012, p. 66).

What it also notes is the high cost of internet access which discourages use of ICT services, suggesting, however, that these costs seem likely to decline:

> Internet use in Ghana is low due to high costs and internet access is mainly available in urban areas. ICT needs to be embedded in curriculum and learning processes in TVET as it begins to penetrate in industry sectors. Mobile phone usage is expanding rapidly and the cost of accessing the internet is decreasing globally. A good working assumption is that within five to six years many young people and teachers will be ICT users (COTVET, 2012, p. 66).

The *Review* indicates that internet services are mostly accessed in urban centres, which may also contribute to the low patronage of the internet services. Use of mobile phones, on the other hand, is rapidly increasing, and it can be assumed that in a relatively short period many people, including teachers, will be conversant with this form of internet access. ICT plays an important role in the development, improvement and delivery of TVET, including improvement and facilitation of the teaching and learning processes through the use and applications of various ICT tools.

As a way of building capacity in information and communication technology for global competitiveness, council for technical and vocational education and training is expected to register and accredit information and communication technology providers, and also develop qualification structures for ICT training within the qualifications framework in collaboration with ICT agencies (GoG, 2004).

However, interview with TVET practitioner revealed that information and communication technology has not been fully integrated in the TVET curriculum.

> No computers for student's use. The computers that are here are kept in the principal's office… We have computers for presentations here and some of us have their personal computers. … we hope they will supply us with enough in the future (Participant 8: Ghana).

Although, council for technical and vocational education and training made recommendation for the integration of information and communication technology in technical and vocational education and training curriculum, responses of the participant indicated that computers were not provided for student's use in the school. The few computers available in the institution were used only for occasional official purposes. However, the participant declared his hope

that the school would be supplied with computers in the future, even though, some staff have their personal computers.

5.8 National qualifications framework

TVET Policy Review indicates that the national TVET Qualification Framework is intended to facilitate smooth transition and articulation between formal, informal and non-formal TVET sectors:

> The TVET Qualification Framework is being introduced with a view to improving linkages between the formal, informal and non-formal systems under a competency-based modular system; however, the NTVETQF has not yet been actualised due to challenges in COTVET. Therefore, apprentices from the informal sector may only have access to the formal system through the trade test examinations managed by the NVTI (COTVET, 2012, p. 52).

The Qualification Framework, which is identified as an autonomous body under COTVET (GoG, 2004), is indicated to bring coherence to the entire TVET sector under the competency-based education and training system, with awarded qualifications in the formal, informal and non-formal TVET sectors being classified according to their levels. It is intended to indicate the interrelationships between qualifications and promote smooth progression within the education and training system.

However, interview conducted with a TVET practitioner revealed that in practice, the national qualifications framework system is still not in operation in Ghana.

> …when fully established, the national qualifications framework would facilitate the movement of students from informal TVET sector to the formal sector… is not yet fully implemented (Participant 5: Ghana).

Because implementation has been delayed due to challenges encountered by the council for technical and vocational education and training (COTVET), access to the formal TVET system by apprentices from the informal sector is meanwhile confined to trade test examinations administered by National Vocational Training Institute (NVTI).

5.9 Quality assurance in TVET

COTVET has been assigned a central role in maintaining TVET quality and standards and ensuring that they meet the required national and international standards. Five aspects of quality assurance have been singled out for specific regulation.

COTVET was established…to ensure that TVET practices and qualifications meet national and international criteria....To achieve this, COTVET has identified five aspects of quality assurance to be regulated in Ghana; they are: Registration of occupational standards and qualifications...Registration of TVET Providers... Accreditation of Providers...Ongoing Verification of assessment...Systemic Verification (COTVET, 2012, p. 59).

The goal of quality assurance would be to ensure that TVET providers and qualifications meet the required criteria and standard before registration and accreditation. COTVET is tasked with registration of occupational standards and qualifications, registration and accreditation of TVET providers, and regulation of the TVET system and qualifications in line with national and international standards. Notwithstanding these provisions, however, full implementation of the quality assurance system for the sector has not yet been achieved beyond the CBT piloting stage:

[Q]uality assurance is a recognised weakness of the current TVET system in Ghana. As at now, there is no overall approach to quality assurance covering the formal and informal sectors.... COTVET is yet to actively engage in full implementation of important aspects of quality management beyond the CBT piloting programmes even though quality is recognised in COTVET's mandate. (2012, pp. 57–58).

Until this full implementation has been accomplished there is a possibility that the reliability and credibility of TVET providers, programmes offered and qualifications could be compromised.

Interview conducted with practitioners of technical and vocational education and training in Ghana indicated that although, the role of quality assurance system has been recognized, it has not been implemented in the TVET sector.

Because technical and vocational education is provided by different departments and organizations including private sectors, maintaining quality is a challenge to the council but we are working towards establishing a strong monitoring and evaluation units in the system for this purpose (Participant 5: Ghana).

Responses of the participant revealed that in practice, quality assurance mechanisms have not been put in place in the technical and vocational education and training system. According to the participant, setting up monitoring and evaluation department would be necessary for improving the quality of technical and vocational education and training. The department would ensure quality provision and delivery of technical and vocational education and training by all providers.

5.10   Improving quality through programme monitoring and evaluation

Monitoring and evaluation plays a very important role in ensuring quality in technical and vocational education and training system. The TVET Policy Review makes the point that with monitoring and evaluation, TVET would be more effective, efficient and relevant and records that COTVET had a monitoring and evaluation unit which assessed the piloting stage of CBT.

> To ensure TVET is relevant and makes the required impact the role of an effective and efficient Monitoring & Evaluation (M&E) system is critical. COTVET has an M&E Unit that has assisted in assessing TVET provision during the piloting of CBT. Now that COTVET is ready to roll-out CBT, there is the need to develop an overall M&E system that informs COTVET, training providers, industry and relevant stakeholders about the relevance and impact of all training programmes. In addition, the M&E system should assist providers with tools such as guidelines/templates for them to initiate their own internal M&E process whiles COTVET addresses external M&E. (COTVET, 2012, p. 67).

In relation to COTVET's readiness to fully implement CBT, the *Review* notes that a monitoring and evaluation system is needed so that relevant TVET stakeholders (COTVET itself, TVET institutions and industry) are kept informed on the relevance and impacts of TVET programmes. The monitoring and evaluation unit needs partner with TVET institutions and provide them with guidelines that would facilitate the establishment of internal monitoring and evaluation systems within the institutions. While institutions conduct their own internal monitoring and evaluation, external monitoring and evaluation would be conducted by COTVET.

5.11   Instruction and programme delivery

The *Policy Review* reports wide acceptance by TVET stakeholders of a shift from the traditional method of TVET delivery to a competency-based training approach in which the goal is to deliver skills and competencies in response to the specific needs of industry and the economy.

> [T]here is a broad acceptance and willingness of stakeholders to ensure a shift from the traditional way of delivering TVET to the CBT approach (p.5).

> There is the need for COTVET to develop operational guidelines for TVET providers to help them adjust from the traditional approach of delivering TVET to the CBT approach. (COTVET, 2012, p. 36).

In addition to ensuring quality TVET delivery, ... Mathematics, Computer Studies, General Science, Social Studies and English should be compulsory subjects in the first two years of all Senior High School Education. (2012, p. 27)

CBT is intended to deliver employable skills and competencies. TVET stakeholders having accepted this approach the policy indicates the need for guidelines to help TVET providers make the shift from the traditional TVET delivery approach to the competency-based approach. Traditional school subjects are expected to play a very important role in the competency-based training and to this end these would be compulsory for students in the first two years of Senior High School.

Practitioners of technical and vocational education and training in Ghana indicated that challenges associated with the introduction and delivery of competency-based technical and vocational education and training include the unpreparedness of teachers for the system.

> … teachers are not fully prepared for the implementation of the competency-based approach. Even the people on top are not fully ready. You see, this approach requires participation of the industries but they are still not ready (Participant 6: Ghana).

Delivery of competency-based technical and vocational education and training would be successful if the teachers are fully ready and familiar with the system. Participation of industry is necessary for the success of the CBT and according to the participant, the industry sector was not also prepared. Competency-based technical and vocational education and training requires strong partnership between TVET providers and the industry.

5.12   Assessment and certification

COTVET has an important role in oversight of student assessment and certification, with all TVET providers needing to be accredited by COTVET before they conduct assessment and award certificates. The accreditation process would involve avoidance of existing duplication and preparing the TVET providers to conduct assessment successfully and award credible qualifications and certificates.

> COTVET would have to accredit awarding bodies to conduct assessment and award certificates for all TVET qualifications to avoid current duplication. Similarly, COTVET would also have to accredit all master craftspersons involved in the NAP to facilitate and assess the informal sector apprentice training (COTVET, 2012, p.33)

[D]ifferent audiences might prefer one or the other of the existing certifications, a unified approach to certification could avoid confusing investors with a workforce certified by different bodies (2012, p. 42).

Regulation by COTVET of assessment and certification would extend to the informal TVET sector, and would include accreditation of master craftspersons in the sector and ensuring that the sector conforms to standards. Recognising that different qualifications and certification processes exist in the informal TVET sector, with certification from different providers having different qualities and standards, a unified system of TVET certification in should be able to give coherence to the certification process and provide employers with appropriate descriptions of each qualification and certificate. Unified certification would be achieved through the establishment of the National Qualification Framework.

Although, the mandate of the council for technical and vocational education and training (COTVET) include accreditation of TVET providers to ensure quality assessment system and avoid duplication of qualifications, interview conducted with practitioners of technical and vocational education and training in Ghana revealed that in practice, TVET providers were not being accredited more especially the private sectors.

> Many TVET programmes are offered without accreditation more especially in the private sector (Participant 7: Ghana).

Assessments carried out without approved guidelines and procedures would not produce credible qualifications and certificates. Different assessment methods adopted by different TVET providers would provide qualifications and certificates with different standards and qualities. Centrally controlled assessment method would prevent the provision of qualifications with different standards by different TVET providers.

5.13   Student enrolment in TVET institutions

Summarising student enrolment trends, the *Policy Review* reports an initial fluctuation in public sector enrolments, with a more consistent pattern of increase in the years immediately preceding the review, attributing this rise to government policy of giving grants to public TVET institutions based on their enrolment numbers.

> Enrolment has fluctuated in the public sector but was on an increasing trend over the period 2007-2011...public institutions consistently have registered higher enrolment figures for the coverage period. This is because government grants to the public institutions are now based on the number of students enrolled thus encouraging heads to be proactive in their enrolment drive....[L]ess than 10% of BECE leavers actually

132

are placed in TVET institutions. This is due to a number of reasons. Firstly, the first choice of students is secondary schools because of the perceived career advantages it offers. Secondly, even if there are enough students willing to enter TVET institutions, the places are limited. Thirdly, the poor image of TVET together with the high cost of establishing TVET institutions makes it difficult for more investment both from the public and private sectors (COTVET, 2012, p. 49).

Allocation of grants according to student enrolment was expected encourage heads of institutions to strive for higher student enrolment. The *Review* indicates that less than 10% of Basic Education Certificate examination leavers enrolled in TVET institutions. Reasons for this low enrolment were a general student preference for traditional academic secondary schools because of perceived occupational benefits offering more career opportunities, insufficient availability of places at TVET institutions for students who did want to enrol, and a combination of negative public perceptions towards the sector and high cost of establishing TVET institutions which discourages investment.

TVET stakeholders also expressed the view that female enrolment in TVET should be increased. The *Review* indicates that female enrolment in occupations perceived to be for males should be encouraged.

> Generally stakeholders were of the view that efforts should be made to: Increase female participation in trades such as engineering generally considered the preserve of males through offer of incentives such as full financial support for ladies willing to enter such trades; promote more female technical trainers, especially in male-dominated trades; develop guidelines for the provision of female-appropriate facilities in TVET institutions (COTVET, 2012, p. 50).

Females should be motivated to enrol in TVET programmes through provision of incentives like giving grants to those who show interest in the system. Having recognised the need for female participation in TVET, the policy indicates that the production of more female TVET teachers should be encouraged. TVET stakeholders recommend that guidelines for the provision of appropriate facilities for females in TVET institutions should be developed.

Challenges associated with enrolment into TVET institutions include low enrolment of students into TVET programmes. Responses of TVET practitioners interviewed indicated that enrolment of students into technical and vocational education and training institutions has been reducing over the years.

> Students who complete basic education prefer to go to grammar schools… they don't want going to technical schools and if you see them coming, you see that their results or grades after basic education are bad or they failed to get admission into grammar school (Participant 8: Ghana).

The participants indicated that enrolments into technical and vocational education and training institutions were low compared to enrolment into grammar schools. The low enrolment into the technical and vocational education and training institutions could be attributed to the societal perception that the TVET sector is meant for students who could not perform academically. Furthermore, the participant noted that students who enrol into TVET institutions were those with poor grades or results, which is an indication that TVET institutions were patronized as a last resort.

5.14   Public-private partnership in competency- based education and training

Partnership between TVET providers, government and the industry is crucial for competency-based education and training. The *TVET Policy Review* notes that partnership between industry and TVET providers would be crucial for the success of a demand-oriented TVET system.

> The cornerstone of a demand-oriented system is a strong partnership between the government and its agencies with industry, which is emphasised in the COTVET Act for strong partnership with industries bodies. Public-Private Partnerships (PPPs) are key to demand-driven TVET systems and to sustaining linkages between formal, informal, and non-formal learning as a systemic feature (COTVET, 2012, p. 32.).

The need for partnership between industry and the government is strongly advocated in the COTVET Act. Demand-oriented TVET should be based on the needs of the industry and TVET providers should therefore partner with the industry for successful implementation of the system. Partnership should be able to promote and facilitate transition between formal, informal and non-formal education and training sectors.

> [G]reater collaboration with local stakeholders would enable TVET providers to develop and deliver programmes targeting the diversity of needs in the local context. Improved links with local employers are likely to have a positive impact on industry placements (COTVET, 2012, p. 4).

The *Review* notes the role of collaboration between TVET providers and the labour market, indicating that this would enable the providers to develop and offer programmes that would be responsive to the needs of the labour market. Partnership between TVET providers and industry would be able to facilitate the placement of students in industries for industrial attachment.

However, interview conducted with practitioners of technical and vocational education and training in Ghana indicated that partnership, which is key to effective demand-driven

technical and vocational education and training system, is not strong between providers of technical and vocational education and training and the industry.

> … this approach requires participation of the industries but they are still not ready (Participant 6: Ghana).

According to the participant, demand-driven TVET provision cannot be successful without the active participation of the industry sector. Collaboration would improve linkages and promote student placement for acquisition of practical skills. Partnership would also facilitate the development and provision of TVET programmes that would be responsive to the needs of the labour market. Commenting on the partnership with TVET stakeholders, Participant 5 indicated that partnership with industry would soon be strengthened as the council for technical and vocational education and training (COTVET) is working towards that.

5.15 TVET delivery Sites and entry requirements

The *Policy Review* notes that at the basic level of schooling, pre-vocational and technical education is delivered together with the general traditional school subjects. At the secondary level, which is referred to as the second cycle of schooling, TVET is delivered in different TVET institutions which provide an alternative to the traditional Senior High School system.

> Pre-Vocational and Technical education is integrated with the general academic curriculum at the basic level. At the secondary level (second cycle), specialisation is available in a number of TVET institutes. Technical Institutes, Farm Institutes and Vocational Training Institutes, provide an alternative to the more academic curriculum at the Senior High Schools. At the tertiary level, there are 10 Polytechnics, 6 public Universities and 34 private tertiary institutions offering degree and HND programmes (COTVET, 2012, p. 25).

The *Review* indicates that TVET providers include technical institutes, vocational training institutes and farm institutes. These TVET institutions are pre-tertiary institutions, and TVET is also delivered at the tertiary level. Institutions that offer TVET programmes at the tertiary level include public universities, polytechnics and private tertiary institutions.

> Entry into public technical institutes is based normally on students' performance at the Basic Education Certificate Examination (BECE) after JHS.... However, in some of the public schools under other MDAs, admission requirements are determined by those organisations and not necessarily by the CSSPS (COTVET, 2012, p. 46).

The *Review* indicates that selection of students for Senior High School and TVET institutions is carried out in an integrated manner through the computerised school selection programme system (CSSPS). Students write the Basic Education Certificate examination at the end of

junior high school, which governs their admission to TVET institutions and Senior High School. Admission requirements vary in some public schools, being determined by the ministries, departments and agencies that have established them.

Interview with practitioners of technical and vocational education and training in Ghana revealed that institutions that offer technical and vocational education and training programmes include technical colleges, farm institutes and tertiary institutions.

> Technical vocational education and training are taught in different types of institutions in Ghana and at different levels. These include technical colleges and different types of technical institutes. You see, and at the tertiary level, it is delivered in universities and polytechnics and also some private institutions. As for the entry qualification, it is normally the basic education certificate examination (BECE) for technical colleges and all public technical institutes even though, those who fail are also admitted (Participant 7: Ghana).

Responses of the participants indicated that technical and vocational education and training programmes are delivered at both pre-tertiary and tertiary levels of education in Ghana, which include universities and polytechnics. Entry requirement into the technical colleges and institutes is the basic education certificate examination.

Although, entry requirement into technical colleges is officially basic education certificate examination, the participant revealed that in practice, students without the entry requirements were also admitted. Admitting students without meeting the entry requirement is a challenge for the sector as it would affect the quality of the TVET provision and the quality of the graduates. Mandates of the council for technical and vocational education and training in Ghana include regulating and supervising all TVET providers with the view to maintaining standards at all levels of TVET provision in the country.

Others challenges in the TVET sector in Ghana associated with sites of TVET delivery as indicated by the participant include the delivery and provision of technical and vocational education and training by several providers. TVET delivery under multiple providers would imply multiple standards and qualities of provision without effective regulating body.

5.16 Challenges of TVET practice in Ghana

Interview conducted with TVET practitioners in Ghana revealed that technical and vocational education and training system in Ghana is confronted by challenges that need to be addressed

for the system to achieve its goals and objectives. These challenges, as revealed by the responses of the TVET practitioners include the following:

- Governance

- Inadequate funding

- Inadequate teaching and learning facilities

- Poor public perception of the TVET sector

5.16.1 TVET governance

Responses of TVET practitioners in Ghana indicated that TVET governance in the country is bedevilled by challenges that require policy review for the system to produce qualitative and responsive TVET graduates. Technical and vocational education and training in Ghana is delivered by different institutions under different ministries.

> You see here in Ghana, technical and vocational education is delivered under the supervision of different ministries, departments and organizations and each ministry and organization has its own policy and standard. Furthermore, the council for technical and vocational education and training is placed under ministry of education. Another problem is that at the tertiary level, TVET is regulated and overseen by the various institutions based on the Acts that established them. These are challenges that the council is now facing. (Participant 5: Ghana)

Positioning COTVET under the Ministry of Education would make it difficult for the council to be considered as a neutral regulator, and while developing and regulating uniform TVET qualifications, standards and certifications should be carried out by COTVET, differing standards and quality of provision exist in the various ministries, departments and agencies that run TVET institutions. Different institutions with different standards of provisions and qualifications constitute a problem for the envisaged centrally regulated TVET system under COTVET.

The council for technical and vocational education and training (COTVET) is charged with coordinating and overseeing TVET provision at both pre-tertiary and tertiary levels. The challenge here was that tertiary institutions have their own Acts which direct and guide TVET provisions at those levels, making it difficult for COTVET to regulate TVET provision

in these post-secondary institutions and giving rise to a conflict of coordination between COTVET and the tertiary institutions.

5.16.2 Inadequate funding

Interview conducted with TVET stakeholders in Ghana revealed that the technical and vocational education and training sector is not adequately funded in Ghana. According to the participants, TVET sector requires more funds for the procurement of more teaching and learning facilities. While commenting on the adequacy of funds for technical and vocational education and training in Ghana, TVET practitioners lamented:

> It is woefully inadequate… (Participant 6: Ghana)

> Funding technical and vocational education in this country is a serious problem. No grant for improvement. They don't allocate grant for attending conferences and workshops; even when they do, it would be too meagre. We have no money to fix our machines when they get bad talk less of buying new ones (Participant 7: Ghana).

Responses of the participants indicated that technical and vocational education and training in Ghana is under-funded. According to the participants, there was little or no funds allocation for conferences and workshops or even to repair teaching and learning facilities like machines when they get bad. Procuring new teaching and learning facilities was also a problem due to inadequate funding.

5.16.3 Inadequate teaching and learning facilities

Inadequate facilities necessary for teaching and learning is a major challenge in the technical and vocational education and training sector in Ghana. This challenge is an obstacle to the provision of quality and responsive technical and vocational education and training. Interview with practitioners of technical and vocational education and training in Ghana revealed that teaching and learning facilities were either inadequate or completely unavailable in most TVET institutions.

> We hardly demonstrate what we teach practically due to lack of materials or facilities required for the demonstration. Our workshops are empty and they don't listen to us when we complain so teachers end up teaching theory only (Participant 6: Ghana)

> No computers for student's use… We hope they will supply us with enough in the future (Participant 8: Ghana).

Responses of the participants indicated that students hardly carry out practical or workshop practice due to lack of facilities for the practice. Teaching and learning facilities necessary for putting the theoretical aspects into practice were either inadequate or not available completely. According to the participants, facilities capable of enhancing teaching and learning such as computers were also not provided.

Responses of the Participants indicated that apart from inadequate teaching and learning facilities, the available ones could not even be repaired when they get bad due to inadequate funding. Participant 7 stated that ―... no money to fix our machines when they get bad" and further explained that the quality of TVET delivery was poor due to inadequate teaching and learning facilities. However, participant 5 revealed that with the establishment of the council for technical and vocational education and training (COTVET) in Ghana, teaching and learning facilities would be made available to all TVET institutions owned by the government.

5.16.4 Poor public perception of the TVET sector

Technical and vocational education and training is negatively perceived by the society in Ghana. This negative perception has placed TVET as:

- A sector for the academically challenged

- A sector with low status

5.16.4.1 A sector for the academically challenged

Interview conducted with practitioners of technical and vocational education and training in Ghana revealed that technical and vocational education and training is perceived as a sector for academically challenged students. Responses of the participants indicated that dropouts and less performing students were encouraged and advised to go to technical and vocational institutions.

> The assumption is that it is those who do not do well academically who are sent to technical schools. But I think that is counterproductive (Participant 6: Ghana).

> …the society labels it as a sector for school dropouts out of ignorance where less intelligent students are always advised to go (Participant 8: Ghana).

However, the participants indicated that the negative public perception of the TVET sector was borne out of ignorance and is therefore counterproductive.

5.16.4.2   A sector with low status

Students and graduates of technical and vocational education and training in Ghana were accorded low status compared to their colleagues in professions like engineering and medicine.

> … those who took the formal academic path within professions like engineering, medicine and law tends to earn more than those who went through the technical schools and vocational schools…it seems like it was not on the same level with the normal, regular academic programs that run through the grammar schools that we have (Participant 5: Ghana).

Low public esteem is noted as a lingering problem in the technical and vocational education and training sector. The participants indicated that technical and vocational education and training was held in low esteem by the society and perceived as a career path for the less academically endowed. People who attended TVET institutions were considered as people with low status. Their status was not considered the same with their counterparts from the universities even if their certificates were of equal value.

5.17   TVET lecturers

A shift from the traditional mode of TVET delivery to competency-based training requires preparation of TVET teachers to adjust to the new approach. The *Policy Review* indicates that TVET teachers were not fully prepared for the competency-based system to be introduced by COTVET.

> The situation for TVET teachers is particularly serious because there is currently no provision for the introduction of the harmonised CBT system approved by COTVET being offered by the tertiary institutions.... This needs to be urgently put in place including the provision of registering and accrediting TVET professionals. Furthermore, opportunities for continuing training and industrial placements are severely limited.... It is proposed therefore that a scheme should be developed for teachers to go on industrial attachment periodically (COTVET, 2012, p. 60).

The success of any educational reform depends on the readiness and quality of those who implement it and this would apply equally in the case of the new competency-based TVET approach. CBT needs to be incorporated into TVET teacher education to familiarise teachers with the system. The *Review* notes the need for professionalising TVET teachers and

therefore recommends that there should be registration and accreditation for teachers. The *Review* also notes that opportunities for continuing training and industrial attachment of TVET teachers are grossly inadequate, and accordingly proposes that a scheme be developed to enable periodic industrial attachment for teachers.

> The current situation for both the initial and in-service training of teachers in TVET calls for urgent action...Teacher education lacks a coherent policy and clear strategies to address the increased demand for qualified facilitators in TVET. Failure to meet the demand for competent TVET professionals compromised the quality of learning for learners (COTVET, 2012, p. 60).

The indication here is that TVET teacher-education policy needs to be reviewed and updated to rectify the absence of any comprehensive provision for training and retraining of TVET teachers because inability of the sector to meet the demand for qualified TVET personnel compromises the quality of the learning process.

Interview with practitioner of technical and vocational education and training in Ghana indicated that TVET teachers were not fully prepared for the competency-based TVET delivery.

> … I mean teachers are not fully prepared for the implementation of the competency-based approach… (Participant 6: Ghana).

Shift in system delivery approach would require teachers' preparedness in terms of delivery methods and knowledge content. There is need for the council for technical and vocational education and training (COTVET) to provide operational guidelines for teachers to guide them adjust from the traditional TVET delivery approach to the competency-based delivery approach.

The next chapter presents an analysis of Technical and Vocational Education and Training in South Africa.

Chapter 6

Technical and Vocational Education and Training in South Africa

6.1 Introduction

The previous chapter considered technical and vocational education and training in Ghana. This chapter presents an analysis of the technical and vocational education and training in South Africa.

6.2 Centralised TVET governance in South Africa

The National Plan for Further Education and Training Colleges in South Africa (RSA, 2008) notes the need for a centrally and nationally coordinated and regulated technical and vocational education and training system under the auspices of the Department of Education. Listed among its goals are elimination of racial discrimination to rectify injustices caused by apartheid and increasing effectiveness and efficiency in the sector.

> [E]xperience points to the need for a central point of coordination, which primarily lies within the Department of Education (RSA, 2008, p. 17)

> The creation of a national coordinated FET college system aims at eliminating racial divisions created by apartheid's social engineering, as well as integrating the merged colleges into single institutional cultures (2008, p. 16).

The document indicates that a nationally coordinated TVET system is intended to integrate TVET providers into a single institutional system.

Post-school provision, which include FET colleges (now technical and vocational education and training colleges), is centrally co-ordinated for effectiveness and coherence.

Public Technical and Vocational Education and Training Colleges in South Africa are governed by Councils (RSA, 2008) whose membership comprises of principal, external representatives, and a representative of academic board who would be elected by the board members. Other representations in the council include donor representative, representative of lecturers who should be elected democratically by the lecturers and a representative of

supporting staff, also democratically elected by them. In the council is also a representative of the student body (RSA, 2006a). The framework of the governance is based on cooperative governance (RSA, 1998a), where major TVET stakeholders are involved. The role of the governing Councils is to ―establish and maintain practices of good corporate governance inorder to enhance the quality, standing and perceptions of both public and private FET colleges" (RSA, 2008, p. 20).

The Further Education and Training Colleges Act 16 of 2006 (RSA, 2006a) notes that members of a council or an interim council must be individuals who are knowledgeable and have experience relevant to the object and governance of the public college in question.

National plan for further education and training colleges suggests that the Department of Education should provide strategic leadership in the development of TVET, develop and maintain policies and systems that would improve and support effective management and governance of TVET institutions.

> [T]he Department of Education must, in keeping with its mission, provide strategic leadership in...developing and maintaining policies, systems and procedures to support efficient management and governance of FET colleges (RSA, 2008, p.12).

> The public FET colleges are governed by college councils (2008, p.20).

> To ensure compliance, the Department must monitor the governance structures of private FET colleges to ensure that they continue to execute their responsibilities in accordance with the FET Colleges Act 2008, (2008, p. 21).

The *Plan* also indicates that public technical and vocational education and training institutions will be governed by the councils of the institutions, with their governance being monitored by the National Department of Education and that similar monitoring would also extend to private TVET institutions to ensure that they comply with the various guidelines and policies governing implementation and delivery of the various programmes in the institutions.

Interview with a lecturer in technical and vocational education and training college in South Africa indicated that the college is being overseen by the department of higher education.

> Technical and vocational education and training colleges have been moved to Department of Higher Education and Training (DHET)… we are now under the department of higher education… we were employed by the College Council (Participant 4: South Africa).

143

The responses revealed that supervision of technical and vocational education and training colleges and their governance rest with the department of higher education and training (DHET). The governance of the colleges, which lies on the governing councils, is centrally and nationally monitored with the view to ensuring compliance with the further education and training colleges Act of 2008. The responses of the participant also indicated that the college council was responsible for staff employment.

Responses of some participants indicated that the way TVET is practised contributed to the governance challenges facing the TVET sector.

> … others go to FET colleges because they could not get into a university…We only
> get learners who are not making it … whenever they do hire, they hire people who are
> not qualified because they say these people have skills and they are from an industry
> or whatever (Participant 2: South Africa)

The responses indicated that in practice, learners who fail to measure up academically in the traditional school system or who could not proceed to higher education are admitted to technical and vocational education and training colleges. Accommodating academically weak learners and those who could not be able to gain admission to higher education due to lower grades can give rise to the negative perception of the TVET sector by the public. Other challenges associated with governance of technical and vocational education and training, as revealed by participant 2 include employing unqualified teachers which would lead to the production of unqualified graduates and poor education quality.Participant 3 expressed that in practice, government employs people to teach in TVET colleges just because those people have the practical skills, not minding the pedagogical aspect or skills. The participant further indicated that such teachers could not deliver very well in the classroom because they are not professional teachers; they lack knowledge of how to impart knowledge logically. Also, while commenting on the challenges of governance and policy guiding the provision and delivery of technical and vocational education and training in South Africa, Participant 4 indicated that TVET policy is so flexible that in practice, anybody who shows interest in acquiring one skill or the other is given admission as long as the person has successfully completed grade 9.

> Anybody who seeks admission here after grade 9 is just given admission regardless of
> their performance (Participant 4: South Africa).

The response above indicates the flexibility of the admission requirements in practice, as Participant 2 also stated that they ―...only get learners who are not making it". The challenges above therefore include employing unqualified teachers and admitting learners without considering their performances. These challenges could affect the quality of TVET provision and graduates.

6.3 TVET philosophy in South Africa

Having inherited a philosophy of governance based on racial discrimination and inequality, coupled with disintegrated technical and vocational education and training system that was racially divided and governed under the apartheid policy prior to the democratic dispensation in South Africa, the post-apartheid philosophy of TVET is the development of a TVET system that would provide equal access to education, training and skills required for employment, economic growth and national development.

The National Plan for Further Education and Training Colleges (RSA, 2008, p. 16) notes that the underlying principle in the South African TVET system is to develop a democratic, equitable, fair and flexible system accessible to all citizens, based on provision of skills, knowledge and attitude for self-sustainability.

> The creation of a national co-ordinated FET college system aims at eliminating racial divisions created by apartheid's social engineering (RSA, 2008, p. 16).

South Africa's technical and vocational education and training system is based on the philosophy of equal access to education, training and employment for all citizens and the development and provision of knowledge, skills and attitude necessary for employment, economic growth and national development. Self-sustainability would be achieved when TVET equips individuals with skills and competencies that would earn them meaningful employment and participation in the economy, yielding meaningful remuneration. The policy signals that a guiding principle should be continuous professional development of individuals that would provide a basis for further educational development in an on-going trajectory of education and career development. TVET should develop a sense of awareness of the individual's role in society and relationship with the physical environment.

> [T]he distinctive features of vocational education and training (VET) are:
> - General education, particularly at the level of initial vocational education;
> - A means of preparing for occupational fields and a basis for effective participation in the world of work;

- A foundation for further learning and a preparation for responsible citizenship;
- An instrument for promoting environmentally sound sustainable development; A means of increasing employment opportunities for the graduates and poverty alleviation (RSA, 2008, p. 14).

The *Plan* also indicates that the underlying philosophy should be to develop the physical environment for the betterment of the society and improve the living condition of the citizens.

TVET Curriculum philosophy should, in addition, seek to integrate academics and practice as traditional subjects promote and facilitate the development process of skills development. The National Plan for Further Education and Training Colleges (RSA, 2008) notes that the theoretical learning component supports the development of vocational skills.

Interview with a TVET lecturer in Pinetown, South Africa, indicated that learners are taught both theory and practical.

> …people don't know what we are doing here. What we teach here is not only practical; we also teach theory but some people think we only teach practicals for people to go and work in companies or industries (Participant 3: South Africa)

Responses of TVET practitioners interviewed revealed that traditional subjects that facilitate the understanding and support the development of technical skills are also delivered in technical and vocational education and training colleges in South Africa.

In practice, aspects of TVET philosophy that seem to be realized include the integration of academics and theory and access to education and training necessary for employment. Responses of participant 3, who is from South Africa, indicated that technical and vocational education and training curriculum comprises both theory and practice. However, the challenge is that the public views TVET curriculum to contain little or no theory content. Philosophy of the technical and vocational education and training system in South Africa also include equal access to education, training and employment. Participant 1 noted somewhat naively that people are now given equal access to education and training compared to apartheid era.

> … now learners in South Africa have equal access to education compared to apartheid era (Participant 1: South Africa).

In theory, equal access to education and training would provide opportunity for learners to acquire skills necessary for employment and integration into the labour market. In practice

however, access to education, including technical and vocational education and training, is far from equitable in South Africa.

6.4   Vision for the TVET system

The *National Plan* notes that the goal for the TVET system is to provide the needs of the community, commerce and industry by developing programmes that would meet the demands of the community and the economic sectors. Demands of the community would include democratic education and provision of skills for employment, job creation and poverty reduction, while the demands of the economic sectors include provision of skills that would be responsive to the needs of the economy and the development of responsive workforce. Features of such a system would include:

- Responsiveness to the needs of society and the demands of the economic sectors.
- Specialised niche or comprehensive institutions of excellence.
- Accessibility to economically active youth and adults outside of the school system, who wish to improve their skills, gain access to better jobs or to progress to higher education.
- Provision and progressive expansion of access through relevant and diverse open-learning, high-quality programmes at multiple sites of learning supported by appropriate infrastructure, equipment and ICT platforms.
- Relevant partnerships with and support from commerce and industry for the benefit of the students.

- Programme-based funding (RSA, 2008, p. 12).

Interview conducted with principal of FET College, now Technical and Vocational Education and Training College, indicated that their programmes reflect the interest of the student, community and the needs of the industry.

> … you see, the programmes we offer are relevant because those who finish here always get employment in the industries around. …People from the companies around come here to employ our graduates every year because they get the type of people with skills they want (Participant 2: South Africa)

The response indicated that TVET offered by technical and vocational education and training colleges are responsive to the needs of the student, by providing skills and knowledge for employment, and to the needs of industry for economic and national development. TVET Programmes are responsive to the needs of the industry evidenced by the immediate employment of the graduates on completion.

Responses of the participant above indicated that despite the negative perception of the TVET sector by the public, skills acquired by TVET graduates are responsive to the needs of the economy and industry.

However, the vision of providing technical and vocational education and training that would enable active youths outside the school system to progress to university or higher education is faced with challenges. Interview with the practitioners of technical and vocational education and training in South Africa indicated that universities find it difficult to consider TVET qualifications as requirement for admission. Similarly, the vision of providing qualified and responsive TVET graduates appeared not to be fully achieved as the responses indicated that the public complains about the quality of the graduates (participant 4: South Africa).

The policy indicates that TVET institutions should be made centres of excellence, held in high esteem and considered as an appropriate place for learning. TVET would be made accessible to individuals who are not in the traditional school system but want to acquire knowledge and skills to gain employment or access higher education. In addition, TVET would employ a range of open-learning methods to improve access to education and training. The vision for the system includes provision of responsive programmes at the various TVET institutions, relevant teaching and learning facilities (including ICT mechanisms) to support the delivery of quality programmes, and funding and industry collaboration to support and improve student learning.

Initiatives and strategies established and implemented in South Africa with the view to achieving the vision of providing responsive skills required for employment, poverty alleviation and for socio-economic and national development include Human Resource Development (HRD) Strategy; National Skills Development Strategies; Accelerated and Shared Growth Initiative for South Africa (AsgiSA) and Joint Initiative on Priority Skills Acquisition (JIPSA). Others are National Qualifications Framework; Sector Education and Training Authorities and National Skills Fund.

The Accelerated and Shared Growth Initiative for South Africa (AsgiSA) is an initative directed towards alleviating poverty and reducing unemployment in the country.

> The Accelerated and Shared Growth Initiative for South Africa (AsgiSA) was prepared during 2005 and launched in February 2006. Its objectives were to introduce policies, programmes and interventions that would allow the South African Economy

148

to grow enough to halve poverty and unemployment between 2004 and 2014 (RSA, 2008, p. 4).

AsgiSA was aimed at promoting the mandate of South African government of halving unemployment and accelerate employment equity, which is an integral vision of technical and vocational education and training in South Africa. Reducing unemployment and promoting equity would be achieved through the provision and development of responsive skills capable of integrating citizens into the labour market.

Supporting the development of skills in the different sectors of South African economy is the Joint Initiative on Priority Skills Acquisition (JIPSA). JIPSA is ―a high-level partnership between government, business and organised labour to accelerate the acquisition of priority skills (RSA, 2007, p. 44). Among the mandates of the Joint Initiative on Priority Skills Acquisition (JIPSA) is its role of leading the implementation of a collective initiative of government, business and organized labour to promote and facilitate the provision of priority skills to meet the objectives of the Accelerated and shared Growth Initiative for South Africa (AsgiSA) (RSA, 2010).

6.5   Concept of TVET in South Africa

In the National Plan for Further Education and Training Colleges in South Africa, (RSA, 2008), technical and vocational education and training is recognised as an inclusive concept which comprises all aspects of education and training that prepare an individual for effective participation in the world of work, equipping the individual with skills, competencies, knowledge and attitude necessary for employment, job creation and poverty alleviation. The National Plan for Further Education and Training Colleges in South Africa (RSA, 2008, p. 14) and the Policy on Professional Qualifications for lecturers in Technical and Vocational Education and Training (RSA, 2013a; p. 3) note that that TVET is referred to as:

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

In addition to provision of skills and competencies necessary for employment and job creation, technical and vocational education and training in South Africa requires that students be exposed to traditional school subjects (RSA, 1998a; RSA, 2008), in recognition

of the fact TVET requires science-based subjects that would facilitate the understanding and development of skills and competencies. The diversity of TVET requires that the system provides knowledge, skills and competencies required in different sectors of the economy.

Technical and vocational education and training policy document (RSA, 2008) in South Africa indicates that technical and vocational education and training has the capacity to provide skills and competencies necessary for employment and economic growth. However, interview with TVET practitioners in South Africa indicated that the TVET system is perceived by the public as a sector meant for learners who cannot continue in the mainstream.

> … they still see it as for children who did not want to finish school…People viewed technical trainee as somebody who cannot achieve academically (Participant 1: South Africa).

This negative public perception of technical and vocational education and training is contrary to the way the sector was conceived as indicated in the policy document and therefore constitutes a challenge for the technical and vocational education and training system. This challenge places TVET as a system for the academically weak learners, which is capable of discouraging parents from sending their children to TVET institutions.

6.6   TVET for social and economic development

In relation to the role of TVET in the social and economic development of society, technical and vocational education and training in South Africa should be responsive to the needs of the labour market, and that in addition to providing technical skills and competencies, TVET institutions should also equip individuals with social skills. The TVET system should develop well-rounded citizens who can engage fully in the society, equipping students with social skills to enable them work effectively in different social contexts and preparing them for democratic citizenship. The National Plan for Further Education and Training Colleges in South Africa (RSA, 2008) notes that the labour market expects employees to possess more than technical skills and competencies; employees should be able to effectively transmit information and work in group:

> In South Africa as an emerging democracy, it is critical that the initial vocational education and training provided by FET colleges supports students to participate actively in all aspects of life (RSA, 2008, p. 15).

> [E]mployers are not looking for individuals who have narrow occupational skills, but people, who are able to communicate, solve problems, calculate and effectively participate in teamwork (2008, p. 14).

> [E]xperience points to vocational education playing a role in the provision of vocational programmes that meet the needs of intermediate and higher level skills for the economy (2008, p. 38).

In relation to the role of technical and vocational education and training in the improvement and development of South African economy, the TVET policies and initiatives (RSA, 1998a; 2014; 2008) note that TVET is recognised as a system capable of providing programmes that would be responsive to the needs of the economy. It declares that average and advanced skills needs of the economy should be provided by the TVET system.

In South Africa, technical and vocational education and training is recognized as a system with the capacity to redress injustice and impact on socio-political development of the country.

> At the heart of any attempt to give effect to the socio-political and redress aspirations of the emerging democratic South Africa, must be the consolidation and development of an extensive national coordinated FET system for intermediate to high level skills delivery (RSA, 2008)

Technical and vocational education and training is necessary for social and political development of a democratic South Africa. TVET provides skills individuals require for integration and contribute towards the development of a society. The national plan for further education and training colleges (RSA, 2008) notes that intermediate to high level skills provision is necessary for achieving access to education, training and employment, and for promoting equity. In Education White Paper 4 (RSA, 1998a), technical and vocational education and training is recognized as a system with the capacity to provide education and training necessary for social and economic development, and also for human resource development.

Apartheid's policy of racism in pre-democratic South Africa has negatively impacted on the social and economic development in the country. Skills development has been recognized as a tool for achieving social and economic growth, which is provided by a responsive technical and vocational education and training system (RSA, 2008).

TVET practitioners interviewed in South Africa indicated that the role of technical and vocational education and training include provision of skills for economic development.

> Learners in FET colleges acquire skills they require for employment… Out there in the industries they also employ people who go to FET colleges because of the skills they have… Industries prefer people who go to FET colleges because they have skills (Participant 1: South Africa)

From the responses of the participant, technical and vocational education and training institutions provide skills that are responsive to the needs of the industry and which are necessary for social and economic development.

6.7   Funding as a vehicle for access, redress, quality and equity

Funding framework for technical and vocational education and training in South Africa is intended to support the principles of access, redress, equity and representativity, provide opportunity for accessing education and training, be directed towards redressing social injustice and provides equal opportunity for all citizens, and focus on the disadvantaged, and recommends that TVET institutions should integrate race, gender and special needs in their plans:

> The funding framework underpins the principles of access, redress, equity and representativity. In this regard the funding formula focuses on the historically disadvantaged by requiring colleges to incorporate in their plans race, gender and special needs. According to the funding framework, (a) the State will subsidise 80% of the programme costs (b) College fees will be 20% of the programme costs... Further, there should be additional monies available to support the identified target groups including fee subsidies for young people that could not otherwise access high quality vocational education, as well as particular grants to support increased access, for example enabling individuals with disabilities to successfully complete their programmes (RSA, 2008, p.31).

> Income from other sources for colleges includes student fees, rentals, donations, as well as services rendered (2008, p. 30).

The funding policy between state and the TVET institutions is to be based on the funding framework, according to which the State will subsidise 80 percent of the costs of a programme with fees from the institutions making up the remaining 20 percent. Skills development policies in South Africa recognise the need for additional funds for the TVET sector to support disadvantaged groups unable to access quality TVET and meet the training needs of the employed (RSA, 2008; RSA, 2014). Increased funding would provide opportunities for special groups of students to continue with their studies and enable students who abandoned their programmes due to insufficient funding to continue and complete their studies. National skills funding policy is intended to address skills shortages and promote

access and equity. The role of funding as an instrument for promoting access and equity is also noted in Education White Paper 4 (RSA, 1998a, p. 33):

> Funding will be a key instrument for influencing the responsiveness of FET institutions to the achievement of national goal, the enhancement of the performance of the system, the widening of participation and the promotion of equity and redress.

Funding is necessary for the procurement of teaching and learning facilities necessary for the provision and delivery of responsive technical and vocational education and training. Delivery of responsive skills depends on the availability of adequate facilities that will support the delivery and the learning process. Less privileged students can be able to access education and training through student financial aid and private funding. Funding for special purposes would be able to promote redress. Programme-based funding will promote the development of human resource and provision of responsive skills necessary for socio-economic development.

Interview with a lecturer of Further Education and Training College indicated that students studying in TVET Colleges receive bursaries and that adequate teaching and learning materials were provided for them:

> … learners receive bursaries but some of them go away after collecting it. … we are provided with most of the things we need for teaching including computers….we always get our pay; I think we have no problem there…(Participant 3: South Africa).

The interview revealed that students benefit from student funding programme, which promotes access and provides opportunity for acquiring skills required for employment and economic development.

However, the funding scheme has its own challenges. The participants indicated that although computers and other teaching facilities were provided, institutions complain of lack of adequate funds for employing qualified teachers. While commenting on lack of adequate funding in the technical and vocational education and training sector, participant 2 stated that government ―…complains that there is no money to hire enough qualified teachers". Responses of participant 2 also indicated that other challenges associated with funding in the TVET sector was that some students abandon their studies after collecting bursary.

Also, lack of adequate funding could lead to inadequate teaching and learning materials and facilities as noted by participants 2 and 4. According to Participants 2 and 4, technical and vocational education and training institutions were not adequately funded and this would

affect not only the quality of TVET provision, but the system as a whole. Adequate funding is necessary for the provision of quality technical and vocational education and training and for the development of quality and responsive TVET lecturers. With adequate funding, learners would also benefit through student bursary schemes, although, participant 3 revealed that some students abandon their studies after collecting the bursary, which is a challenge that needs to be addressed in the system.

6.8 TVET Curriculum

6.8.1 *Responsiveness to the needs of students*

Technical and vocational education and training policies in South Africa note the importance of developing a TVET curriculum that is responsive to and meets the interests and learning needs of the diverse student population, incorporating skills, knowledge and attitude required by students for accessing higher education and for finding employment:

> [D]evelopment of the curriculum to meet the needs of an increasingly diverse student population becomes important.... The emerging trend in TVET...has been to move towards a broad vocational curriculum which has adequate provision for the development of high level cognitive skills, allows for movements to a range of vocations or vocational fields and/or the movement into higher education (RSA, 2008, p. 39).

A diverse student population may include the employed and the unemployed, the rich and the poor, students with different learning capabilities, and the privileged and the less privileged from all racial groups. Developing a curriculum capable of meeting the needs of the growing student population is considered an important priority. According to the National Plan for Further Education and Training Colleges, TVET is undergoing a shift from a narrow curriculum to a broad curriculum which provides opportunities for a diverse range of careers and facilitates both development of high-level skills and access to higher education.

Interview with a senior official in Further Education and Training College (now technical and vocational education and training college) revealed that the curriculum of technical and vocational education and training colleges prepare students for both employment and higher education.

> … the FET curriculum prepares learners for skilled jobs in industry, companies or other private businesses that require their services, or even establish their business. …those who want to further their education can also do that (Participant 1: South Africa).

154

The response indicates that curriculum of technical and vocational education and training colleges prepares students for employment and for self-reliance and also for higher education. Theory is also integrated in the curriculum in addition to practice for all-round development of the students and provide a solid academic foundation for higher education and training.

Although, the national plan for further education and training colleges (RSA, 2008) indicated that technical and vocational education and training curriculum should prepare learners and allow for movement to higher education, interview with TVET practitioners revealed that in practice, graduates of TVET colleges find it difficult to gain admission into universities.

> The problem we are facing is that universities find it difficult to accept TVET qualifications for admission especially NCV 4 (Participant 4: South Africa).

University's refusal to recognize or accept relevant and appropriate technical and vocational education and training qualifications for admission implies that technical and vocational education and training curriculum would lead to a dead-end, which is a challenge for the TVET system.

6.8.2 *Responsiveness to the needs of the economy*

Technical and vocational education and training policies (RSA, 1998a; 2008) in South Africa note the need for the TVET curriculum to remain responsive to the needs of different economic sectors, recommending that it should undergo periodic review to be carried out by an Inter-Provincial Committee for TVET institutions, with the approval of the heads of education departments committee (HEDCOM) and the minister of education.

> In order to ensure that the curriculum remains responsive to the needs of different economic sectors, the Inter-Provincial Committee for FET colleges must with the approval of HEDCOM and the Minister of Education commission review the curriculum at specific intervals based on substantive evidence from the other government departments, relevant industry sectors, occupational councils, the higher education sector and other statutory bodies with an interest in vocational education (RSA, 2008, p. 39).

The review of the curriculum would be based on input from all sectors or organisations that have interest in TVET. TVET stakeholders should advise the sector on relevance of the curriculum content and declare to the inter-provincial committee the skills needs of each industry sector so that the curriculum content reflects the demands of the industry. This would make the curriculum responsive to the needs of the industry and economic sector.

6.8.3   *Theory, general education and practice in the TVET curriculum*

Integration of general traditional subjects in TVET programmes is strongly advocated in the TVET policies. Theoretical component of the TVET curriculum would support the development and acquisition of technical and vocational skills. It would also provide a strong and solid foundation for student learning, enhancing students' understanding of the basic principles of skills development and acquisition, exposing them to a wide range of career opportunities, preparing them for higher education and training and developing their communicative, social and interpersonal skills:

> [There is a] need for initial vocational education to focus on general vocational programmes which support the development of vocational skills with a breadth of knowledge and a strong general education foundation...that is, the theoretical learning components of the learnership and apprentice programmes (RSA, 2008, p. 14).

Also advocated is the integration of theory in learnership training programmes. The theoretical component of learnership and apprenticeship programme, according to the policy, is necessary to support the development and understanding of the practical component of the programmes in the workplace. Integration of general education with apprenticeship and learnership programmes would improve proficiency and understanding of the learning process as opposed to simply learning a set of technical skills without deep understanding.

A technical and vocational education and training lecturer in Further Education and Training (FET) College was among the people interviewed for this study. Her responses as a TVET practitioner indicated that learners are also taught traditional subjects in addition to skills provision.

> … What we teach here is not only practical; we also teach theory… (Participant 3: South Africa).

The responses of the TVET lecturer indicated that technical and vocational education and training curriculum comprises of traditional school subjects that promote the understanding and development of skills processes. The theoretical component of the technical and vocational education and training curriculum would provide a strong foundation for the learning process and for progression to higher education and training.

6.9   Responsive and demand-driven TVET

The national plan for further education and training colleges in South Africa (RSA, 2008) emphasises that education and training provided by technical and vocational education and

training colleges must be responsive to both the human capital needs and the economic and development needs of the country, advising that the TVET sector should diagnose and analyse the existing human resource capacity with a view to providing programmes that would respond to its needs:

> [T]he role of FET colleges is to provide ‗programme-based further education and training' which ‗respond(s) better to the human resources, economic and development needs of the Republic'. The FET colleges are also expected to ‗respond to the needs of the labour market and of the communities they serve (RSA, 2008, p. 44).

> Provinces may prioritise additional programmes based on specific economic priorities in the Province...These should be determined by the college based on industry and community needs within their locale (2008, p. 47).

The policy indicates that TVET institutions must provide programmes that respond to the needs of the workforce and of the communities that the institutions serve. Furthermore, the technical and vocational education and training programmes offered should be situation specific, based on need and demand from the economy and the industry. TVET programmes on such a basis would signify a demand-driven education and training system.

Interview conducted with technical and vocational education and training practitioners revealed that programmes delivered by TVET institutions were responsive to the needs of the labour market as their offerings were informed by the needs of the market and the economic.

> …People from the companies around come here to employ our graduates every year because they get the type of people with skills they want (Participant 2: South Africa)

Programme offerings in the technical and vocational education and training intitutions are therefore demand-driven, based on the needs of the economy and the labour market. Technical and vocational education and training system develops and offer programmes for the development of responsive human resources necessary for social and economic development. Furthermore, responses of the participant revealed that the TVET providers develop and offer programmes that are responsive to the needs of the community and the industry.

However, responses from another participant revealed that the public complain about the quality of graduates of technical and vocational education and training colleges.

> … and there were also complains about the poor quality of our graduates
> (Participant 4: South Africa).

According to the participant, the labour market complains that performances of graduates of technical and vocational education and training colleges are below expectations. This signifies that the training given to students was of poor quality, which could be attributed to lack of teaching facilities, unqualified teachers or provision of programmes that were not responsive to the needs of the economy.

6.10   ICT as a tool for access and improving quality

Skills development policies (RSA, 1998a; 2008) support and encourage the application of Information and Communication Technology (ICT) in education and training in view of its importance for raising the quality of education and training in the TVET system and improving access to the system.

> [T]he Department of Education must, in keeping with its mission, provide strategic leadership in…[s]upporting the expansion and use of ICT to improve the quality of provision, broaden access, improve quality and efficiency of governance and management (RSA, 2008, p.12).

> [T]he need for a sophisticated Further Education and Training Management Information System (FETMIS) is urgent and is a priority of the Plan.… To this effect, the Department will develop data-capturing norms and standards which should guide data capturing and data analysis to support national, provincial and institutional decision making (2008, p. 51).

ICT facilitates access to education and training through the diverse teaching and learning media that it provides, which may include internet facilities, radio, phones, television and other communication devices. The TVET policies also note the importance of ICT for improving efficiency in administration, management, communications and record keeping, making it possible to capture, store and retrieve information and data pertaining to both staff and students, including data on student enrolment, age, race, gender and student disability.

An interview conducted with a lecturer in technical and vocational education and training college in South Africa revealed that information and communication technology (ICT) facilities needed for teaching and learning were available for both lecturers and learners.

> If you go to the computer room now you will see learners using them (Computers). The college has provided computers for learners, and lecturers also use them. The computers help in our teaching and learners use it to learn (Participant 3: South Africa)

The responses indicate that computers enhance and improve the teaching process and also facilitate learner's learning process. Using computers, learners can repeat a learning process over and over until the lesson is sufficiently understood. Information and communication technology provides greater access to information, enhanced the quality of teaching and learning, creates interest and motivate students.

6.11   The National Qualifications Framework in the transformation of TVET

Noting the fragmentation of the TVET sector during the apartheid era, with TVET institutions located under different departments, each separately governed and funded, the technical and vocational education and training policies and initiatives cite the establishment of the National Qualifications Framework as an important step in regularising the previously fragmented TVET system to transform the work of the sector and consolidate it into a single structure.

> In 1995, South Africa began overhauling the education and training system inherited from the apartheid government. At that time the vocational and technical component of the system consisted of 152 technical colleges located in various education departments. The 152 technical colleges were governed, managed and funded in different ways...The first step in the transformation of vocational education was the establishment in 1995 of a single National Qualifications Framework (NQF), which aimed to promote the integration of the education and training systems under the auspices of the South African Qualifications Authority (SAQA) (RSA, 2008, p. 6).

The NQF was established to integrate TVET under the supervision of the South African Qualifications Authority (RSA, 1995), which has responsibility for registering qualifications, and coordinating and overseeing the implementation of the NQF. The National Qualifications Framework classifies registers, publishes and articulates qualifications, and should facilitate access, mobility and progression in the technical and vocational education and training sector.

6.12   Centralised quality assurance for uniform quality and standards

Drawing attention to the diversity of education and training provision in both the public and the private sector in South Africa, giving rise to a high degree of inequalities, the National Plan for Further Education and Training in South Africa stresses the need for a single quality assurance framework for the TVET system to give it greater coherence:

> In South Africa there is a diverse range of education and training provision with high levels of inequality in both the public and private sectors...it is crucial to make a concerted effort to bring about a single quality assurance framework for the vocational education and training system in the FET level (RSA, 2008, p. 40).

The single quality assurance framework would help in the necessary maintenance of uniform quality and standards in all TVET institutions. The *Plan* recommends that programmes delivered at TVET institutions should be quality-assured by Umalusi – the Council for Quality Assurance in General and Further Education and Training, noting also that any assessment body could be delegated to quality-assure the sector:

> All vocational education and training programmes offered at public FET colleges shall be quality-assured by Umalusi or an assessment body delegated to perform such a function... All occupational and trade programmes shall be quality-assured by the QCTO or a statutory body delegated to perform such a function. Vocational and occupational qualifications offered by FET colleges at level 5 and above shall be quality assured by the HEQC and QCTO respectively (RSA, 2008, p. 41).

The policy also recognises the need to quality-assure all occupational and trade programmes. It indicates that Quality Council for Trades And Occupations (QCTO) should quality-assure all occupational and trade programmes. Vocational qualifications offered in TVET colleges at levels 5 and above should be quality-assured by the Higher Education Quality Committee (HEQC) while occupational qualifications at levels 5 and above should be quality-assured by the QCTO.

A technical and vocational education lecturer noted the role of quality council for further education and training colleges while responding to questions for this study.

> … the final examination is centralized… it is set by department of education but is scrutinized by Umalusi (Participant 4: South Africa).

Responses of the participant revealed that final examinations are centrally controlled and quality assured by the General and Further Education and Training Quality Assurance Council, Umalusi. The role of the Council includes maintaining the quality and standard of qualifications for general and further education and training in South Africa.

6.13   Monitoring and evaluation in TVET

Stressing the importance of monitoring and evaluation, the National Plan for Further Education and Training Colleges notes that the TVET sector must develop capacity in this direction to measure the results of implementation, establish whether the objectives of the system are being accomplished and provide a feedback on the effectiveness of TVET. Monitoring and evaluation should be an ongoing diagnostic reflection of both strengths and weaknesses in TVET, directed towards constantly refining the system:

160

To be able to determine whether these goals are achieved the FET College system must have a strong monitoring and evaluation capacity (RSA, 2008, p. 52)

For the system to function optimally it must be able to reflect on and take stock of its successes and failures in order to consolidate its strengths and improve on its weaknesses. It is for this reason that performance on these objectives at systemic and institutional levels must be monitored and evaluated (RSA, 2008, p. 50).

Strong and effective monitoring and evaluation would determine the readiness, strengths and weaknesses of the system to highlight areas that require improvement and indicate appropriate corrective measures. Monitoring and evaluation would involve analysing results and performance, measuring them and comparing them with the set objectives of the system being monitored and evaluated.

6.14   Indicators of success in TVET

In relation to linkage between national objectives and the objectives of the TVET system and TVET institutions, the National Plan for Further Education and Training Colleges identifies indicators of success against which the performance of the system and the institutions would be measured – one being the number of students that access TVET, and another being the ability of the institutions to retain students in the system:

These national objectives...are linked to systemic and institutional deliverable objectives against which the performance of the system and individual institutions can be measured. To achieve this, each institution must ensure that there is an increase in:
• the numbers of students that access vocational education and training;
• the retention rate of students in vocational programmes;
• the success/pass rate per programme;
• the number of women in the scarce skills programmes;
• the national throughput rates to counter the shortage of skills;
• the number of students who progress to higher education;
• the number of graduates who get job placements (RSA, 2008, p. 50).

The *Plan* notes that an increase in student pass rate in each programme should be an indicator of success, indicating that programmes goals are being achieved and institutions measured against such successes. Achieving national and institutional objectives of TVET would require an increase in student success per programme and TVET institutions should therefore ensure that students progress and succeed in acquiring skills in each programme; an increase in the number of students who succeed and proceed to higher education would be an indicator of success against which the performance of the system should be measured, as would an increase in the number of TVET graduates who gain employment.

6.15 Instruction and programme delivery

6.15.1 Promoting access through flexible programme delivery

The need for flexible programme delivery in technical and vocational education and training to promote access and achievement for different groups of students with different learning abilities is acknowledged in the National Plan for Further Education and Training Colleges in South Africa:

> [T]he delivery of programmes must be flexible to promote access and achievement for a diverse range of students (RSA, 2008, p.23)

> [O]ne of the ways of enabling adult and employed students to access vocational education is to diversify the modes of vocational education delivery. In this regard, the inter-provincial committee for FET colleges must, in consultation with Umalusi, provide HEDCOM with advice on how the distance mode of provision can be put in place in colleges (RSA, 2008, p. 47).

Flexible programme delivery would promote achievement for students who may be male or female, young or old, employed or unemployed, or for students who could have different language abilities. It would also provide opportunities for students from all racial groups to achieve success through education and training. The *Plan* recognises the need to diversify the modes of TVET delivery, noting that this would provide opportunity for adult and employed students to access TVET. The policy indicates that the inter-provincial committee for TVET institutions should collaborate with the Umalusi quality control council and offer advice to the HEDCOM on the distance mode of provision in the institutions. Flexible programme delivery would provide opportunity for the employed to access education and training at their convenience without having to leave their workplaces for extended periods.

6.15.2 Funding to improve delivery of TVET programmes

Funding of TVET institutions to improve the delivery of TVET programmes would, the *Plan* indicates, cater for the skills needs of both the employed and the unemployed. Delivery of the programmes would be improved through the provision of quality and adequate teaching and learning facilities that would facilitate the acquisition of necessary skills by the youth. The recapitalisation grant should be used for procurement of the facilities:

> The focus of the FET college recapitalisation grant was to improve the delivery of vocational education programmes in order to respond to the skills needs of both the employed and unemployed youth (RSA, 2008, p. 28).

For colleges, improving the quality of delivery of education and training, as their core business, must remain paramount (2008, p. 45).

The *Plan* notes the need for improving the quality of TVET delivery in the sector, recommending that priority should be given to improving the quality of education and training delivery in TVET institutions. Having identified the capacity of the technical and vocational education and training (TVET) sector in providing the much needed skills, knowledge and attitude necessary for employment and economic growth, the 2006 annual report of Accelerated and Shared Growth Initiative for South Africa (AsgiSA) notes the grant given to the sector (RSA, 2006, p. 16).

> A major R1,9 billion programme will recapitalise the sector, tackle vital and long-neglected curriculum reform, and invest in staff training and development, infrastructure and equipment for Colleges.

The grant was intended to facilitate reform in technical and vocational education and training colleges in terms of staff training and development and provision of adequate and modern teaching and learning equipment with the view to improving the delivery of responsive technical and vocational education and training.

National Skills Fund was an initiative established to support the implementation of the National Skills Development Strategies in South Africa. The Fund is intended to respond to the development of skills necessary for employment, economic and human resource development (RSA, 2006). The launching of the Skills Development Levies Act by the Department of Labour was a response to the funding of skills development in South Africa through the imposition of skills development levies (RSA, 1999).

6.15.3 Lecturer training for improved quality of delivery

In relation to the need for TVET teachers to update and improve their technical and general knowledge, the *Plan* points out that having qualified technical and vocational education teachers is crucial for quality of TVET delivery, as is updating and improving their skills, knowledge and experiences. The quality of TVET teachers would reflect on the quality of programmes, students and delivery.

> [T]he majority of lecturing staff need to improve and update their academic-vocational knowledge and experience. The effective delivery of quality programmes for a modern and responsive FET college system requires qualified and competent staff (RSA, 2008, p.41).

> There is little chance of improving the quality of educational provision unless the curriculum development process is linked to a national strategy of training college

lecturers and ensuring that there is a coherent framework of lecturer development (2008, p. 42).

The *Plan* signals that unless the national system of training TVET teachers is integrated in curriculum development process, the chance of improving the quality of education delivery would be low, and it suggests that a coherent framework for the development of lecturers should be developed.

However, responses of interview conducted with practitioners of technical and vocational education and training revealed that funds for teacher training for improved quality of delivery and employment of qualified teachers were inadequate.

> They always complain of lack of money to train teachers…that there is no money to hire enough qualified teachers (Participant 2: South Africa).

Provision of quality technical and vocational education requires competent, qualified and dedicated teachers. Effective policy for the development of technical and vocational education and training teachers is necessary for the provision and delivery of quality and responsive technical and vocational education and training.

Lack of adequate funding of the TVET sector could lead to employing teachers that are not qualified, which would have negative effect on the quality of the graduates produced and the programmes offered. Inadequate funding would lead to the delivery of programmes that would not be responsive to the needs of the student, community or the labour market.

6.16   Student assessment

6.16.1 Centralised examination and assessment

National Plan for Further Education and Training Colleges indicates that a single nationally controlled examination and assessment system is to be maintained and supported by the supervisory and regulatory department to produce credible and reliable results:

> The Department of Education will maintain and support a single nationally-based examination and assessment system to provide a credible and reliable system which would ensure the quality of summative assessments of all students (RSA, 2008, p. 40).

Such a system is likely to promote consistency in examination and assessment procedures, with consistent results when conducted under the same context or situation at any time. This is likely to improve the quality of students' assessment at the end of a programme of learning

and bring about uniformity in quality and standard of qualifications obtained from different institutions in the same programme. A nationally coordinated examination and assessment system for the TVET sector will improve quality, standard and consistency in the sector.

> [T]he single national examination and assessment system shall include the following:
> - A nationally co-ordinated assessment system;
> - A national data base specifically for FET colleges;
> - A nationally driven system for moderation and standardisation of assessments;
> - Linkage to a single quality assurance system (RSA, 2008, p. 40).

The *Plan* also notes a related need for a national data base for the TVET sector that would provide a comprehensive record of all TVET institutions, their staff, facilities, departments, programmes and all other aspects of the sector. In addition, the single national examination and assessment system should have a nationally guided moderation and standardisation system which would improve quality and maintain standards within the sector. Linking the national examination and assessment system to a single quality assurance system would improve the quality and standard of the examination and assessment system.

> In this approach, provision in the National Certificate (Vocational) is made for a combination of internal and external assessments...ensuring the active involvement of the various role-players from commerce and industry (RSA, 2008, p. 39).

The *Plan* indicates that provision would be made for both internal and external assessments for TVET as these are deemed necessary for improving the integrity and credibility of TVET qualifications and certificates. The *Plan also* recommends active involvement of stakeholders from commerce and industry in the assessment process. External moderation can be conducted by any authorized body, department of education, Umalusi or any relevant Education and Training Quality Assurance (ETQA) body according to South African Qualifications Authority (SAQA) and Umalusi standards and requirements (RSA, 2007b).

Interview with a technical and vocational education and training lecturer (Participant 4) indicated that final examinations in technical and vocational education and training colleges are externally moderated.

> … the final examination is centralized because it is set by department of education but is scrutinized by Umalusi. (Participant 4: South Africa).

The responses indicated that examination questions are centrally controlled and moderated by Department of Higher Education and Training and General and Further Education and Training Quality Assurance Council (Umalusi). Regulating and moderating examinations centrally would ensure quality, maintain standard and improve the integrity of TVET qualifications.

6.16.2 TVET certificates and qualifications

In terms of the National Plan for Further Education and Training Colleges, the minimum requirements for the attainment of TVET certificates and qualifications should be National Certificates (Vocational) at levels 2, 3 and 4 of the NQF.

> The National Certificate (Vocational) at Levels 2, 3 and 4 sets out the minimum requirements for the attainment of the national vocational certificates. (RSA, 2008, p. 7).

> [The National Certificate (Vocational) is] a qualification at Levels 2, 3 and 4 of the NQF which aims to solve the problem of poor quality programmes, lack of relevance to the needs of the economy, as well as low technical and cognitive skills of the FET college graduates (2008, p. 11).

According to the *Plan*, these TVET qualifications at levels 2, 3 and 4 of the NQF are expected to improve the overall quality of the TVET sector, solving the problem of poor quality programmes and improving the practical and theoretical knowledge of TVET graduates.

6.17   Student population

6.17.1 Increased student enrolment in TVET

Noting the Department of Education plan to increase student enrolment in TVET institutions to over one million students by 2014, the *National Plan* indicates that the increase would be carefully and systematically begun in 2007 and 2008 and then continues gradually:

> The Department of Education plans to expand student enrolment in FET colleges to over 1 million students by 2014. The expansion will be systematic and careful in 2007 and 2008 and will progressively expand, as shown in the Table below: (RSA, 2008, p. 29).

The stages of the planned expansion are set out in Table 6-1 below.

Table 6-1: Proposed gradual expansion of student enrolment in the public FET college sector

Province	2009	2010	2011	2012	2013	2014
EC	12,000	19,200	27,600	39,600	56,800	81,500
FS	5,000	7,900	11,400	16,300	23,400	33,600
GT	26,600	41,500	60,750	89,000	130,300	191,000
KZN	20,700	32,850	47,200	67,600	97,100	139,300
LP	16,500	25,850	37,100	53,200	76,400	109,600
MP	9,500	14,900	21,900	32,100	46,900	68,800
NC	3,900	6,100	8,800	12,600	18,100	25,900
NW	6,900	9,800	14,400	21,100	30,900	45,300
WC	11,900	18,400	26,900	39,500	57,800	85,000
National	120,000	177,000	256,000	371,000	538,000	800,000

(Source: RSA, 2008, p. 29).

The *Plan* notes that support will be needed for students seeking to enrol and that such support would provide more access opportunities for disadvantaged students, with academic achievement being made a matter of priority.

> [A]ny attempts at increasing student enrolments must be matched with appropriate access and support systems which effectively increase the access of the marginalised and students at risk. Academic achievement should be a matter of priority (RSA, 2008, p. 33).

Access to education and training should be encouraged to enable students acquire skills and knowledge necessary for integration in the labour market and to become useful members of the society

6.18   Skills development through collaboration with industry

The *National Plan* stresses the need for TVET colleges to partner with industry and community, thus providing opportunities for TVET institutions to identify workplaces that would be capable of providing skills or on-the-job training to students relevant to the particular qualification while the TVET institution delivers the institutional learning component of the learnership and apprenticeship learning process. Forming such partnerships should be the responsibility of the institutions:

> FET colleges will take the responsibility for forming partnerships with industry and communities in their area. FET colleges will ascertain which partners will deliver learnerships and apprenticeships which require them to provide the institutional learning component. Further, colleges need to work directly with local industry to

167

determine which skills programmes they can offer in relation to short-term needs in their area. Colleges also need to work directly with industry to secure placements for students as part of on-course support and exit strategy for college graduates (RSA, 2008, p. 45).

TVET colleges need to work directly with local industry in their area, making it possible for them to determine what programmes would be appropriate for them offer to serve the immediate needs of the community. This would also help to secure placements for their students as part of on-course support or for helping their graduates to find employment.

Skills acquisition and development through collaboration with industry was also noted and emphasized in the 2006 annual report of the Accelerated and Shared Growth Initiative for South Africa (AsgiSA) (RSA, 2006, p. 16).

> Modernised College programmes must encompass industry-based training… There is wide scope for cooperation and partnerships between Colleges, the Sector Education and Training Authorities (SETAs) and employers, and to foster partnerships with industry.

Integrating industry-based training in technical and vocational education and training programmes would make TVET programmes more responsive to the needs of the economy and labour market; facilitate employment and promote smooth transition of TVET graduates from school to the labour market.

Although, the policy indicated that colleges ―need to work directly with industry to secure placements for students as part of on-course support" (RSA, 2008, p. 45), interview conducted with a practitioner of technical and vocational education and training revealed that in practice, learners scout for placements themselves.

> Actually students indicate where they would go for practical experience and we allow them (Participant 4: South Africa).

Industry or work places selected by students themselves may not be relevant to their field of specialization, which is a challenge for the system. The aim of industry-based training would be defeated if students are not placed appropriately for the exercise as relevant skills would not be acquired.

6.19   TVET delivery sites and entry qualifications

In terms of the *National Plan*, TVET is primarily to be delivered in TVET institutions, usually referred to as Further Education and Training (FET) Colleges, which are situated in

the FET band. The TVET system is centrally coordinated and offers qualifications at levels 2 to 5 of the NQF.

> At the core of the vision for a new FET system is the concept of a national coordinated FET college system which offers qualifications that are registered at Levels 2 to 5 of the NQF (RSA, 2008, p.17).

> FET colleges may offer higher education programmes, particularly at Levels 5 and 6 of the NQF under the authority of a higher education institution (2008, p. 34).

TVET institutions may be allowed to offer higher qualifications at NQF Levels 5 and 6; programmes at these levels would be offered under the supervision of a higher education institution. Collaboration between TVET institutions and higher education institutions would facilitate student entry into higher education institutions and also improve quality of delivery:

> The primary focus of FET colleges should be the following target groups:

> a) Unemployed Matriculants;

> b) Unemployed young people with Grades 11, 10 and 9;

> c) Adults seeking to acquire specialist skills for meaningful economic participation (RSA, 2008, p.28).

> The National Certificate (Vocational) at Levels 2, 3 and 4 sets out the minimum requirements for the attainment of the national vocational certificates (2008, p. 7).

Target groups for the TVET institutions are interested youths with grades 9, 10 and 11 who have the ability to achieve success in the National Certificate vocational programmes, other persons who have an interest in acquiring skills and competencies for employment and economic development, and youth who have finished grade 12 and are not employed.

Technical and vocational education and training is also delivered in higher institutions, which include universities, for higher qualifications and professional training (RSA, 2013a; HRDC, 2014). Higher technical and vocational education and training will strengthen and enhance existing professional skills and improve leadership role in technical and vocational education and training environment (RSA, 2013a).

Interview with a TVET lecturer indicated that technical and vocational education and training programmes are offered in institutions other than further education and training (FET) colleges in South Africa.

we have FET colleges, universities and others… they all offer technical and vocational programmes…learners come here after passing grade 9 but those with matric also come here and start from grade 10 again (Participant 2: South Africa).

Commenting on the entry requirement into Further Education and Training (FET) Colleges, the participant indicated that learners who have successfully completed and passed grade 9 were being admitted. However, the participants pointed out that people with matric also apply and are given admission to start from grade 10. This could mean that such learners would want to acquire skills for employment in their chosen areas of interest.

6.20   Articulation between TVET programmes

The need for vertical and horizontal articulation between TVET programmes that allow smooth transition of students between programmes on the same level and from lower level to a higher level has been emphasised in the national plan for further education and training colleges (RSA, 2008). Good articulation mechanisms should facilitate access to higher education programmes.

> These programmes must ensure vertical and horizontal articulation, cohesion and educational value with practical relevance (RSA, 2008, p.19).

> FET colleges may offer higher education programmes, particularly at Levels 5 and 6 of the NQF under the authority of a higher education institution. Such co-operation and partnership aim to ensure quality of provision, facilitate student articulation to higher education qualifications (2008, p. 34).

In relation to the need for TVET programmes to be educationally and practically relevant the *Plan* notes the potential for TVET institutions to offer higher education programmes, suggesting that these should be at NQF levels 5 and 6 under the supervision of a higher education institution. Partnership facilitates student articulation to higher education and would also improve quality of TVET programmes.

Interview conducted with practitioners of technical and vocational education and training in South Africa indicated that problem of articulation exists between TVET colleges and universities.

> … universities find it difficult to accept TVET qualifications for admission especially NCV 4 (Participant 4: South Africa).

According to the participant, graduates of technical and vocational education and training colleges always have problems of gaining admission to higher education as universities seem

not to consider TVET qualifications as a requirement for admission. This practice can create an impression that NCV 4 is not adequate to qualify learners for higher education, which is a challenge for the sector.

6.21   Challenges of TVET practice in South Africa

TVET practice in South Africa is bedevilled by a number of problems which could hinder the development and improvement of the system and these must be overcome if it is to play a role in social, economic and technological development. These challenges, as revealed by the responses of practitioners and stakeholders of technical and vocational education and training in South Africa when interviewed include the following:

- Governance

- Inadequate funding

- Inadequate teaching and learning facilities

- Poor public perception of the TVET sector

6.21.1 Governance

Interview with TVET practitioners in South Africa indicated that one of the challenges of technical and vocational education and training practice in the country is governance. Responses of a lecturer in a TVET college revealed that the governance and some administrative policies of the sector gave rise to the negative perception of the sector by the society.

> …while others go to FET colleges because they could not get into a university, the points they scored were not high enough. We only get learners who are not making it … thing that I have noticed so far is that whenever they do hire, they hire people who are not qualified because they say these people have skills and they are from an industry or whatever (Participant 2: South Africa)

The policy of admitting academically weak learners and those who could not make it to universities or with lower grades could make the public assume that the sector is established or meant for the academically weak learners, hence, giving rise to negative perception of the sector. The responses also revealed that people employed to teach are not professionally trained teachers. According to the participant, some people were employed to teach because

of their industry skills, and not because they are professionally qualified. These practices would affect the quality of both the learners and the programmes offered.

6.21.2 Inadequate funding

Interview conducted with TVET practitioners in South Africa indicated that technical and vocational education and training is not adequately funded. According to the participants, funds allocated to TVET colleges is not adequate to provide all that are required for the provision and delivery of quality and responsive TVET programmes.

> … they always complain of lack of money…they complain that there is no money to hire enough qualified teachers (Participant 2: South Africa).

Lack of adequate funding of the TVET sector could lead to employing teachers that are not qualified, which would have negative effect on the quality of the graduates produced and the programmes offered. Inadequate funding would lead to the delivery of programmes that would not be responsive to the needs of the student, community or the labour market.

6.21.3 Inadequate teaching and learning facilities

Inadequate teaching and learning facilities is one of the challenges of the technical and vocational education and training sector in South Africa. Responses of interview conducted with practitioners of technical and vocational education and training in South Africa indicated that inadequate facilities constitute a challenge in TVET institutions.

> Here facilities for learning are not adequate more especially in the laboratories, even though we have some but are not adequate and are not the modern type (Participant 2: South Africa).

> … we also need modern facilities in other departments (Participant 3: South Africa).

> In this college, we have facilities but our problem is inadequate classrooms (Participant 4: South Africa).

Participant 2 stated that teaching and learning facilities were not adequate and indicated that the available facilities were obsolete. Similarly, participant 3 also commented that although, they have facilities like computers, modern facilities that would enhance effective teaching and learning in other departments were not adequate. Commenting on the inadequacies of teaching and learning facilities in technical and vocational education and training institutions, Participant 4 indicated that inadequate classrooms is also a challenge in the sector as it would limit students' enrolment into TVET programmes. Lack of adequate qualified TVET lecturers

as noted by participants 2 and 4 would also limit students' enrolment into TVET programmes.

6.21.4   Poor public perception of the TVET sector

Responses of participants from South Africa indicated that the society has strong negative feelings towards technical and vocational education and training. Such negative feelings positioned technical and vocational education and training as:

- a sector with legacy of deficit
- a sector for the academically challenged
- a sector with low status

6.21.4.1 Legacy of deficit

The participants' responses revealed that there was a lingering perception of technical and vocational education and training that was entrenched in people's mind over many decades. It further shows that technical and vocational education and training has a historical legacy or trend that is still in the minds of the society.

> …people still have quite a negative view of what we do in a technical college…so they think it is still like old days…they still see it as for children who did not want to finish school (participant 1: South Africa)

The responses showed that the way and manner in which technical and vocational education and training sector was viewed in the old days by the society, is the same way the society views it today. The above comments by the participants clearly show that the negative perception of technical and vocational education and training sector several years ago is still lingering in people's minds.

6.21.4.2 A sector for the academically challenged

The participants' responses revealed that the society views technical and vocational education and training as programmes designed for slow and unintelligent learners. It was perceived as a career path for the less academically endowed learners. The responses showed that Learners who were academically weak and could not cope with the normal academic work at the mainstream are easily admitted or accommodated in the sector. According to the participants, technical and vocational education and training is perceived as a programme designed for:

> kids who couldn't cope in the school level...somebody who cannot achieve academically (Participant 1: South Africa)

173

…others go to FET colleges because they could not get into a university, the points they scored were not high enough. We only get learners who are not making it (Participant 2: South Africa)

The responses showed that the society viewed technical trainees as people who are not intelligent or those who cannot cope with the academic work. Supporting this view, Participant 3, who is also a TVET practitioner in South Africa, lamented that the society wrongly viewed the sector as for learners who could not cope at the mainstream.

6.21.4.3   A sector with low status

Participants' responses also indicated that technical and vocational education and training sector was held in a low esteem by the society. The responses showed that graduates of the sector were considered inferior and therefore with lower status compared to their colleagues from universities. People who attended technical and vocational education and training institutions were considered as people with low status.

the society still looks down at people who are technically inclined by those who are academically inclined (Participant 1: South Africa).

Somebody who goes to the university will get more status as opposed to someone who leaves high school and come to FET College (Participant 2: South Africa)

Their status was not considered the same with their counterparts from the universities even if their certificates were of equal value. The negative perception attributed to certificates obtained from technical and vocational education and training institutions has lowered the status of people who graduated from such institutions. The responses showed that when one studied in any technical and vocational education and training institutions, the society looks at such person with disdain.

If you have learnt in an FET college, you are looked down by the society and even here, the employees because some of us are the product of the FET, we look down at each other (Participant 3: South Africa)

From the response above, even people working together have disrespect for one another based on institutions they previously attended. People who attended technical and vocational education and training institutions were seen with low esteem. They were seen as people with low status or second value.

174

6.22 Responsive TVET lecturers

Recruitment of technical and vocational education and training teachers and other supporting staff needs to be flexible and responsive, and to this end TVET institutions should be allowed to enlist their staff, both teaching and supporting according to the policy, rules, regulations and requirements of service stipulated in the Further Education and Training Colleges Act of 2006.

> In pursuit of flexibility and responsiveness, the FET Colleges Act, 2006 makes it the responsibility of public FET colleges to employ the lecturers and support staff. The terms and conditions of service are set out in this Act. In order to ensure that the appropriate calibre of lecturers is developed and recruited, the Department must develop a national lecturer development framework, which spells out the knowledge, skills and qualifications required to teach at a public FET college…The employment of lecturers is subject to laws relating to employment in South Africa (RSA, 2008, p. 20).

The National Plan for Further Education and Training Colleges in South Africa (RSA, 2008) indicates that a framework for the enlistment and development of lecturers should be developed, specifying the requirements, knowledge and skills required to teach in TVET institutions. This would provide a guide for the recruitment and development of qualified TVET teachers. Enlistment of TVET lecturers should be in accordance with the laws governing employment in the Republic of South Africa.

However, a policy on professional qualifications for lecturers in technical and vocational education and training has been developed (RSA, 2013a), which will be used by the department of higher education and training for evaluation purposes and will also be used as a requirement for registration with a professional council for lecturers in technical and vocational education and training.

Qualifications selected for technical and vocational education and training lecturers include Bachelor of Education in Technical and Vocational Teaching; Bachelor of Education (Honours); Master of Education and Doctorate degress. Others are Postgraduate Diploma in Technical and Vocational Education and Training; Advanced Diploma in Technical and Vocational Teaching; Advanced Diploma in Technical and Vocational Education and Training; Diploma in Technical and Vocational Teaching and Advanced Certificate in Technical and Vocational Education and Training (RSA, 2013a, p. 13). Continuing professional development of TVET lecturers at higher levels enhances and deepens their

subject content knowledge and prepares them for career advancement in specialist fields and leadership management.

The next chapter presents comparison and discussion of findings.

Chapter 7
Comparison and Discussion of Findings

7.1   Introduction

This chapter presents a comparative overview of the respective TVET policies in the three countries, indicating similarities and differences between them. Categories that emerged in analysis of these policies coincide with the CTE components of the conceptual framework outlined by Rojewski (2002) that underpins this study: philosophy, TVET curriculum, student assessment, student population, instruction and programme delivery options and programme evaluation. The comparison reveals the features of TVET policy which offer potential for improvement, development and standardisation nationally and globally.

7.2   Tabular cross-national comparison of TVET policies

The tabular outline of similarities and differences between the national TVET policies of South Africa, Ghana and Nigeria presented in Table 7-1 below highlights notable similarities, differences, and (in some cases) silences in the respective national policies in relation to the principal TVET categories that emerged during analysis of the policies.

Being a study with comparative focus, the purpose of the tabular comparison is to reveal at a glance the presence or silence of a _policy area' in the respective policies, which emerged as categories during the analysis. Absence of _policy area' in a policy would provide a basis for policy renewal and improvement.

Categories showing general similarity between the three national instances are governance; philosophy, vision and goals; definition/conceptualisation; curriculum; instruction and programme delivery approaches; student assessment; information and communication technology; funding; sites of delivery and entry requirements; challenges faced by the sector; lecturers; student population; and partnership with industry. Areas of significant difference

include monitoring and evaluation; national qualification frameworks; quality assurance systems; and articulation.

Table 7-1: Comparative analysis of TVET in South Africa, Ghana and Nigeria

	South Africa	Ghana	Nigeria
	TVET in South Africa	**TVET in Ghana**	**TVET in Nigeria**
Categories:			
TVET governance	Nationally coordinated TVET system	1. TVET coordinated and overseen by Council for Technical and Vocational Education and Training under the supervision of Ministry of Education 2. TVET at tertiary level governed by institutions' councils and Academic Boards	National Board for Technical Education oversees and coordinates all aspects of TVET other than university provision
Philosophical principles	1. Integration of theory and practice 2. Eliminating racial divisions through nationally coordinated TVET system 3. Equal access to education and training 4. Preparation for employment 5. Means of poverty alleviation 6. Lifelong learning	1. Integration of theory and practice 2. Equal access to education and training 3. Preparation for employment 4. Means of poverty alleviation 5. Lifelong learning	1. Integration of theory and practice 1. Equal access to education and training 2. Preparation for employment 3. Means of poverty alleviation 4. Lifelong learning
TVET definition / concept	Vocational education and training seen as referring to those aspects of the educational process that, in addition to general education, involve study of technologies and related sciences, and acquisition of practical skills, understanding and knowledge relating to occupations in various sectors of economic and social life.	Technical and vocational education and training is a comprehensive term which covers school-based as well as out-of-school education and training programmes, formal and non-formal, designed to prepare individuals with competencies for specific occupations or productive activities in the various sectors of social and economic life.	Vocational education and training seen as referring to those aspects of the educational process that, in addition to general education, involve study of technologies and related sciences, and acquisition of practical skills, understanding and knowledge relating to occupations in various sectors of economic and social life.

	South Africa	Ghana	Nigeria
	TVET in South Africa	**TVET in Ghana**	**TVET in Nigeria**
Vision and goals	**Vision** 1. A specific identity and legislative sphere of operation. 2. Responsiveness to the needs of society and the demands of the economic sectors. 3. Specialised niche or comprehensive institutions of excellence. 4. Accessibility to economically active youth and adults outside of the school system, who wish to improve their skills, gain access to better jobs or to progress to higher education. 5. Provision and progressive expansion of access through relevant and diverse open-learning, high-quality programmes at multiple sites of learning supported by appropriate infrastructure, equipment and ICT platforms. 6. Relevant partnerships with and support from commerce and industry for the benefit of the students. 7. Programme-based funding.	**Goals of TVET** 1. Create a flexible human resource supply. 2. Produce a high-quality skilled workforce 3. Increase income-earning capacities, through skill training, life-long learning and integration into the modern economy. 4. Contribute to increased foreign exchange earnings. 5. Contribute to the maintenance of economic and political stability.	**Goals of TVET** 1. Provide trained manpower in the applied sciences, technology and business particularly at craft, advanced craft and technical levels 2. Provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development 3. Give training and impart the necessary skills to individual who shall be self-reliant economically
TVET curriculum	1. TVET Curriculum comprises theory, general education and practice 2. Responsive TVET curriculum	1. TVET curriculum comprises theory, general education and practice 2. Competency-based TVET curriculum	TVET curriculum comprises theory, general education and practice
Instruction and programme delivery	1. Both practice and theory delivered 2. Flexible TVET delivery	1. Both practice and theory delivered 2. Competency-based training delivery	Both practice and theory delivered
Examination and assessment	1. Single nationally-based examination and assessment system 2. Combination of internal and external assessment 3. Active involvement of role-players from commerce and industry	1. All assessments centrally regulated by COTVET 2. Awarding agencies to assess and award certificates 3. Master craftsperson to assess in informal sector	Examinations and award of certificates centrally handled by National Business and Technical Examinations Board (NABTEB)

	South Africa	Ghana	Nigeria
	TVET in South Africa	**TVET in Ghana**	**TVET in Nigeria**
Information and communication technology	ICT is recognised as an instrument for improving quality, efficiency of governance and promoting access	Limited access to internet	ICT recognised as an instrument for facilitating acquisition of skills and knowledge
Funding TVET	1. Provincial education budget (government) 2. Trainees' contribution (fee) 3. Donor funds 4. National Skills Fund (NSF)	1. Public expenditure (government) 2. Trainees' contribution (fee) 3. Donor funds 4. Skills Development Fund (SDF)	1. TVET funded by federal, state and local governments 2. Participation of individuals and communities encouraged 3. Industrial Training Fund (ITF)
Sites of TVET delivery	1. FET colleges (public and private) 2. Universities and other related institutions	1. Technical Institutes 2. Farm Institutes 3. Vocational Training Institutes 4. Polytechnics 5. Universities	1. Technical colleges 2. Polytechnics 3. Universities
Entry requirements	1. Grade 9, 10 and 11 learners 2. Unemployed matriculants 3. Employed adults who need to update their skills 4. NC(V) 4 for higher qualifications	1. Based on performance at the Basic Education Certificate examination 2. Determined by establishing bodies 3. Based on ability to pay in informal education sector	Junior School Certificate
TVET challenges	1. Poor management of TVET college sector 2. Poor public perception of TVET 3. Lack of sector identity 4. Poor access to TVET 5. Unresponsive TVET programmes and qualifications 6. Poor throughput rate 7. Poor quality of TVET graduates 8. Dearth of managerial skills and capacity 9. Inadequate TVET funding 10. Absence of effective management information system 11. Misconception of TVET sector 12. Inadequate qualified TVET lecturers	1. Poor linkages with industries 2. Lower social acceptance 3. Mismatch of demand and supply 4. Inability to meet industries' skills demand 5. Lack of effective management information system ***Implementation Challenges*** 1. COTVET situated under MOE 2. Ability to oversee tertiary level of TVET 3. Development of NTVETQF 4. Roll-out of piloted CBT 5. Existence of Acts operating TVET at different levels and agencies 6. Limited involvement of industries in the CBT	1. Poor public perception 2. Inadequate funding 3. Inadequate qualified teachers 4. Inadequate teaching and learning facilities

	South Africa	Ghana	Nigeria
	TVET in South Africa	**TVET in Ghana**	**TVET in Nigeria**
TVET lecturers	TVET institutions employ their Lecturers	1. TVET Lecturers not fully prepared for CBT delivery 2. Limited continuing training and industrial placements for teachers	Policy document indicates that no education system shall rise above the level of its teachers
Student population	1. Different programmes offered for different student groups 2. Promoting student access	1. Promoting more female technical trainers 2. Increased female participation in TVET 3. Full financial support for female TVET students	No specific explanation on student population offered in the policy
Partnership with industry	1. Partnership with industry acknowledged 2. TVET institutions take responsibility of forming partnerships	Partnership with industry acknowledged but role of industry is presently limited	1. Partnership with industry acknowledged 2. Industrial attachment centrally coordinated by Industrial Training Fund (ITF)
Programme monitoring and evaluation	Acknowledged and fully operational in the TVET system	1. Piloted CBT programme monitored and evaluated 2. Recommendation for developing monitoring and evaluation system	Inspectorate services monitor and maintain standards below tertiary level
National qualification framework	Established and fully entrenched in the TVET system as an instrument for transformation	Recognised in policy but not fully implemented	National Vocational Qualifications Framework approved in 2013
Quality assurance	TVET quality assured by designated quality assuring bodies (Umalusi, QCTO, HEQC)	Quality assurance recognised in TVET sector BUT not fully implemented	1. Inspectorate services responsible for maintaining standards at all levels of education below tertiary level 2. NVQF established to ensure quality in TVET
Articulation	1. Vertical and horizontal articulation between programmes 2. Student articulation to higher qualifications	Vertical and horizontal articulation	

7.3 Similarities in the TVET policies of South Africa, Ghana and Nigeria

7.3.1 Governance of TVET systems

TVET is centrally and nationally governed in all three countries. In South Africa, governance of TVET is centrally and nationally regulated, while individual TVET institutions are governed by their respective councils. Similarly in Ghana, TVET is centrally coordinated and regulated by the Council for Technical and Vocational Education and Training (COTVET), and in Nigeria TVET provision is centrally and nationally coordinated and regulated by the National Board of Technical Education (NBTE).

All three countries recognise the significance and importance of the TVET sector in the education system, and its location and governance at national level means that it is made a national priority in these countries. A similar pattern can be seen in a number of countries globally, where government recognition of skills for national development as a high priority has led to centralised provision and governance of TVET (Akoojee, 2009; Bolina, 1996; UNESCO, 2010). Nationally controlled TVET systems promote access to diverse occupational opportunities and ensure social equity for the disadvantaged (Bolina, 1996). According to the African Union (2007), nationally and centrally coordinated TVET systems give coherence and addresses the issue of different qualifications with different standards in the sector.

7.3.1.1 TVET Governance in South Africa

In South Africa, technical and vocational education and training underwent a radical reform after the country achieved political democracy in 1994 (RSA, 1998a; RSA, 2008; UNESCO, 2014). South Africa's technical and vocational education and training governance is based on the principles of cooperative governance (RSA, 1998a; RSA, 1998b; UNESCO, 2014) where all TVET stakeholders are involved. Membership of the governing Councils of Further education and Training Colleges, which is renamed Technical and Vocational Education and Training Colleges (RSA, 2013b) is drawn from major stakeholders in the sector, which is a reflection of cooperative governance principles.

Council for a TVET college comprises principal, external representatives selected by MEC, and a representative of academic board who would be elected by the board members. Other representations in the council include donor representative, representative of lecturers who

should be elected democratically by the lecturers and a representative of supporting staff, also democratically elected by them. In the council is also a representative of the student body (RSA, 2008; RSA, 2006a).

Governance of private technical and vocational education and training colleges fall under their respective Director Generals (UNESCO, 2014) and must fulfil all requirements necessary for the provision of quality TVET programmes and appropriately registered as provided in the Further Education and Training Colleges Act 16 of 2006 (RSA, 2006a).

Interview with practitioners of technical and vocational education and training in South Africa indicated that the governance of technical and vocational education and training colleges is centrally and nationally coordinated by the department of higher education. Akoojee, Gewer and McGrath (2005) also note that all post-school provision is centrally coordinated by the national Department of Education, which also coordinates the allocation of provincial schooling budgets.

Cooperative governance of technical and vocational education and training provides an opportunity for all stakeholders to contribute to the development and provision of quality technical and vocational education and training.

7.3.1.2 *TVET Governance in Ghana*

In Ghana, technical and vocational education and training is delivered under different ministries, agencies and organizations, both public and private. These different ministries, organizations and agencies have different independent mandates with different TVET programmes all aiming at developing human resources with different qualifications and standards (COTVET, 2012). The provision of technical and vocational education and training in Ghana has therefore been governed by different ministries and agencies with informal sector operating with their own conditions (GoG, 2004; COTVET, 2012). At the tertiary level, the various institutions also operate with their mandates as determined by their Acts through their Councils and Academic Boards (COTVET, 2012).

The Council for Technical and Vocational Education and Training (COTVET) was established to nationally and centrally coordinate and oversee all aspects of technical and vocational education and training in Ghana. The COTVET Act provided for the establishment of a Board to govern TVET with representation from major stakeholders including government, employers, private sector, labour organizations and TVET providers

(COTVET, 2012; Baffour-Awuah & Thompson, 2012), which made it _cooperatve governance'. The Council would also facilitate and promote research and development in technical and vocational education and training (UNESCO, 2012).

7.3.1.3 TVET Governance in Nigeria

In Nigeria, on the other hand, the mode of governance of TVET is not explicitly spelt out in TVET policy as it is in the policies of South Africa and Ghana. This can be attributed to the fact that TVET policy in Nigeria is incorporated in the broader national policy on education. However, a National Board for Technical Education was established by Act No. 9 of 1977 (FRN, 1977; Yakubu, 2009; UNESCO, 2011) to oversee and coordinate all aspects of TVET in Nigeria outside of university education. This includes regulating programmes offered by TVET institutions through accreditation process (UNESCO, 2012). Membership of the Board comprises a chairman, appointed by the President, one representative each from the Ministry of Education, the Ministry of Labour and Productivity, the Ministry of Agriculture and Water Resources, the Ministry of Industry, the technical colleges, States of the Federation, the Industrial Training Fund, employers organisations, the National Manpower Board, and the National Commission for Women, together with two representatives each from polytechnics, colleges of agriculture, and professional bodies (FRN, 1977).

Participation of key TVET stakeholders in the governance of TVET in the countries covered by the study shows recognition that in combination these stakeholders can provide a holistic education perspective on the professional formation of the students. While government provides coordinating and regulating leadership (Bolina, 1996) through councils and boards, TVET institutions provide academic functions (Mohlokoane, 2004), and industry (workplaces) offers opportunities for applying theories and principles to practical life experiences and acquisition of workplace experiences (Donkor et al., 2009).

7.3.2 Philosophical principles of TVET

The philosophical principles that guide TVET provision in the countries covered by the study are basically similar. They include equality in TVET access, development of individuals into effective citizens, and provision of a responsive TVET system that promotes the integration of academics and practice. In South Africa there is also a particular emphasis on developing a democratic, fair and accessible TVET system for all citizens.

Philosophy as principles that guide a practice (Strom, 1996), varies from one country to another based on political structure, government policies and priorities for development. Technical and vocational education and training in South Africa is influenced by apartheid policies, which brought divisions and inequalities in the TVET system and which advantaged whites at the expense of other groups (Mummenthey, 2010; Akoojee, Gewer & McGrath, 2005; Barnes, 2004). During the apartheid era, the technical and vocational education and training institutions were treated differently, served different population groups and their locations determined by apartheid planning (RSA, 2008).

Following the formation of a democratically elected government in South Africa in 1994, the philosophy underpinning the provision and development of technical and vocational education and training includes eliminating racial divisions and provision of skills required for employment and for socio-economic and national development. Socio-political and economic philosophy that inform TVET in South Africa is therefore based on democratic right, equity and access.

TVET curriculum philosophy in South Africa includes the integration of theory and practice. Integration of theory and practice, advocated by Rojewski (2002), would provide a foundation for skills development and prepare students for higher education. Interview with technical and vocational education and training practitioners in South Africa indicated that TVET curriculum in the country comprises of both theory and practice.

In Ghana, the philosophy that informs technical and vocational education and training include improved productivity and competitiveness of the skilled labour force and raising the income-earning capacities of its citizens through a quality oriented and industry-focused competency-based TVET programmes (GoG, 2004; COTVET, 2012).

Nigeria's philosophy of technical and vocational education and training is based on the provision of equal access and development of individuals into sound and effective citizens through the provision of skills, knowledge and attitude necessary for employment and self-reliance and for social, economic and national development (FGN, 2004).

The philosophy underpinning technical and vocational education and training (TVET) curriculum in South Africa, Ghana and Nigeria all include integration of theory and general education into TVET curriculum.

Integration of theory, general education and TVET creates a TVET system that can produce graduates with the cognitive and practical skills they need for employment and progression to higher education. Integration of theory and practice is consistent with Dewey's (1916) pragmatic philosophy of education, which informs the conceptual framework of this study. In Dewey's philosophy of education, theory and practice delivered together, not separately. Strom (1996), who sees philosophy as principles that guide a practice, asserts that TVET practitioners should state why they conduct practice the way they do. Integration of theory and practice exposes students to intellectual knowledge and skills acquisition for problem solving and livelihood, and also prepares them for higher education (Arthur-Mensah & Alagaraja, 2013).

There is wide recognition of the importance of equal access to TVET in ensuring that all citizens can acquire knowledge, skills and competencies required for employment, self-development and further education (Syjuco, 2005; Akoojee, 2005a; Grunwald, 2008). In addition, TVET develops individuals to become effective citizens through the provision of knowledge, skills and competencies that integrate them into the labour market (UNESCO, 2010).

7.3.3 *Concept, goals and vision of TVET*

The conceptual definition of TVET in the policies of South Africa and Nigeria are the same, namely that it concerns ―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, attitude, understanding and knowledge relating to occupations in various sectors of economic and social life" (RSA, 2008; FRN, 2004). This conceptual definition is also used in the policy document on professional qualifications for TVET lecturers in South Africa (RSA, 2013a), has been adopted by UNESCO (2001; 2002; 2010), and is cited in a number of additional related contexts (Hughes, 2005; Ayalew, 2011; Neal, 2011; Wang, 2012; Hailu, 2012).

TVET goals as indicated in the policies of Ghana (COTVET, 2012) and Nigeria (FRN, 2004), and TVET vision as indicated in the South African policy document (RSA, 2008), include equipping individuals with knowledge, skills and competencies necessary for employment and job creation, production of a qualified workforce responsive to the skills needs of the labour market, and preparation of individuals for further education and lifelong learning. Other similar goals include provision of skills necessary for economic, social,

187

technological and national development. These goals are consistent with the goals of TVET acknowledged by UNESCO (2002, 2001) and the African Union (2007). Goals of TVET in Ghana also include contribution to increased foreign exchange earnings.

In South Africa, vision for the TVET system, reflecting national policy goals and consistent with the vision and goals of the FET system in Education White Paper 4 (RSA, 1998a), includes development of coordinated technical and vocational education that would provide high-quality and responsive TVET programmes accessible to individuals (including unemployed youth) who want to develop their skills, achieve success or further their education. It also includes improving access to training through various open-learning programmes and development of skilled and responsive workforce (RSA, 2014). Other goals are collaboration with (and support from) industry, programme-based funding, and responsiveness to the needs of the society and of economic sectors.

TVET practitioners in South Africa acknowledged the responsiveness of technical and vocational education and training programmes offered in the TVET colleges. Interview conducted with the practitioners revealed that with all the challenges facing technical and vocational education and training, programmes offered by the colleges are to some extent, responsive to the needs of the individuals, community, industry and the economy.

Initiatives established to achieve the vision of halving poverty and unemployment in South Africa include the Accelerated and Shared Growth Initiative for South Africa (AsgiSA). The initiative aims at introducing programmes that would develop the economy with the view to reducing poverty and unemployment in the country (RSA, 2008).

7.3.4   TVET curriculum

7.3.4.1   TVET curriculum in South Africa

In South Africa, general education and theory is integrated into the technical and vocational education and training curriculum as it facilitates and promotes the understanding and development of technical skills (RSA, 2008). Recognizing the role of the theoretical component of teaching and learning in the technical and vocational education and training system, the policy on professional qualifications for lecturers in TVET in South Africa provides that TVET lecturers need to be theoretically competent in addition to their trade skills (RSA, 2013a). Similarly, for effective development of skills necessary for employment and socio-economic development as well as national growth, the National Skills

188

Development Strategy III actively encourage and promote the integration of workplace training with theoretical learning (RSA, 2014).

Responses of technical and vocational education and training practitioners in South Africa indicated that TVET curriculum provides skills for employment and self-reliance and also prepares learners for higher education. The Participants (Participant 1 & 3) indicated that what they teach is not only workshop practice as assumed by the society but that they also teach theory which provides foundation for skills development and prepare learners for higher education. This is in line with Akoojee, Gewer and McGrath (2005) who indicated that technical and vocational education and theory is geared towards integrating theory and practice.

7.3.4.2 TVET curriculum in Ghana

Although TVET curricula are similar in the countries covered by the study, the technical and vocational education and training curriculum in Ghana is competency-based. Council for technical and vocational education and training (COTVET) introduced the competency-based training approach and directed training providers, in cooperation with industry to adopt and implement the CBT curriculum approach (COTVET, 2012). This is confirmed by Anane (2013), Ansah and Ernest (2013), and Baffour-Awuah (2010) indicate that TVET in Ghana is undergoing a transformation from the traditional TVET curriculum to a competency-based curriculum. Competency-based training focuses on proficiency testing where students are rated on their practical competence (African Union, 2007). Industry is strongly involved in determining the content of the curriculum and in the training processes (Boahin, Eggink & Hofman, 2013). The skills demands of the industries and the economy determine the programmes offered by TVET providers (Boahin, Eggink & Hofman, 2013). Competency-based training is associated with modularisation of TVET curriculum (King, 1993).

7.3.4.3 TVET curriculum in Nigeria

Technical and vocational education and training curriculum in Nigeria comprises of both theory and practice at all levels of education and training. Technical and vocational education and training curriculum for technical colleges are structured in foundation and trade modules and the curriculum for each trade includes general education; theory and related courses; workshop practice; industrial training and production activities; entrepreneurial training and an element of business management (FRN, 2004).

While theory and general education provides a foundation for the development of skills and preparation for higher education, industrial training provides opportunity for applying what has been learnt in the classroom at the actual work environment.

TVET curricula in the countries covered by the study incorporate theory and general education. Rojewski (2002) argues that such integration is important because it provides a strong foundation for the understanding and development of technical skills, facilitates articulation between different technical programmes and prepares students for higher education. Furthermore, the theoretical component assists understanding of skills-development processes.

TVET curricula should be responsive to the needs of the diverse student population, integrate them into the world of work and prepare them for higher education. To achieve this, the curriculum should undergo periodic review to keep it up to date with the changing needs of different economic sectors (Arthur-Mensah & Alagaraja, 2013; Ohiwerei & Nwosu, 2013). Involvement of industry in curricular design and development is also important if TVET is to be responsive to specific industrial needs (Qureshi, 1996).

Johnson (1992) argues that the curriculum should emphasise understanding in addition to acquisition of practical skills. An effective TVET curriculum should be able to equip students with the basic scientific and technological foundations of the skills component. In this era of technological change, the labour market requires people who can communicate effectively, think creatively, adapt to changing technology and be capable of making sound judgements (Johnson, 1992). Lauglo (1993) emphasises the need for training to be broad so that it would accommodate all economic and technological changes. Majumdar (2007) takes the view that the TVET curriculum should incorporate relevant and current developments that would provide students with skills capable of integrating them into the society and also adapt to technological developments and changes.

7.3.5 *Mode of instruction and programme delivery*

Training delivery and mode of instruction for TVET in South Africa, Ghana and Nigeria are broadly similar. In all three countries, theory, general education and practice are delivered together, not separately. In South Africa, TVET delivery includes the theoretical components that would support the development of skills. Similarly in Nigeria, theory and related courses are expected to be delivered along with workshop practice and entrepreneurial training.

Likewise in Ghana, academic subjects are delivered together with technical and vocational education in the first two years of training after basic education.

Integration and delivery of theory and general education in TVET courses would facilitate understanding of skills development processes, expose students to different career opportunities and prepare them for higher education. Rojewski (2002) indicates that theory, general education and practice should be delivered together and that TVET systems should focus on the delivery of both academic and technical skills. Similarly, Arthur-Mensah and Alagaraja (2013) note that reforms in TVET systems include the integration of academics and TVET to increase the possibility for TVET graduates to access higher education. Stone et al. (2008) suggest that inclusion of academic subjects like mathematics would give TVET students a better chance of accessing higher education.

Effective instruction and delivery of quality programmes is dependent on the quality of teachers in the system, as was found to be the case in South Africa. In Ghana it was necessary for COTVET to develop guidelines for TVET providers making the transition from traditional TVET delivery to the competency-based approach.

The quality of TVET systems, programmes, qualifications, certificates and graduates is dependent on the quality of those who implement the system. TVET programmes are delivered by TVET teachers, hence the quality of the teachers will determine the quality of the systems and the programmes delivered, as no education system can rise above the quality of its teachers (FRN, 2004). The quality and competence of TVET teachers is crucial in the delivery of quality programmes (African Union, 2007; Baffour-Awuah & Thompson, 2012).

In South Africa, flexible TVET delivery, diversifying the modes of delivery, would allow different groups of students, including employed and unemployed youths and adults, to access education and training at any time. Exploring new modes of instruction and delivery (i.e., multiple options for TVET delivery, as itemised in the conceptual framework for this study) will increase access to TVET (Hampton & Bartram, 2002). This would include TVET delivery outside the formal school environment, in the workplaces, communities and homes of the students (Hampton & Bartram, 2002). Instruction and delivery options include learnerships, distance learning education, weekend classes, full-time classes, work-based learning and mixed-mode provision (Mohlokoane, 2004; RSA, 2008), all of which extend access to education and training. Further options for extending delivery include online delivery, videoconferencing and audio conferencing (Hampton & Bartram, 2002).

In Ghana, the shift from traditional TVET delivery to the kind of competency-based delivery discussed by King (1993) is intended to promote training programmes that would be responsive to the needs of industry. CBT involves an integration of skills, attitude and knowledge (Anane, 2013). It promotes proficiency of specific skills and knowledge and is learner-centred (Sullivan, 1995). Effective delivery methods for competency-based education and training include discussion method, direct-instruction method, problem-solving method, research method and small-group method (Anane, 2013).

7.3.6   *Examination and assessment*

In the three countries covered in this study, examination and student assessments modes are similar in terms of regulation and coordination, with central moderation and standardisation of the assessment processes.

A centrally coordinated student assessment system ensures that examinations and qualifications are credible, reliable and qualitative, helps to maintain uniform standards and quality, and enhances the credibility and reliability of qualifications and certificates so that they have national and international recognition. Student assessment – which Curtis (2010) describes as a process of collecting evidence and making judgements about student performances – can be internal or external, and external assessment of students requires the participation of major stakeholders from commerce and industry. Rojewski (2002) indicates that student assessment should be standardised, reflect industry standards and employ a range of assessment options; these can include examinations, tests, assignments, projects, practical exercises, interviews, class questions and observations (RSA, 2007b). Curtis (2010), likewise, points to the need for a range of assessment techniques in order to meet the demands of the various TVET stakeholders. According to the ILO (2005), assessment for certification should, among other criteria, be objective and standardised. Standardised testing is commonly employed for student assessment because it focuses on the quality of student performance, which improves student learning and teaching (Pongi, 2004).

In South Africa, a single nationally-based examination and assessment system is maintained and supported. Assessments in TVET include both internal and external assessment, with participation of TVET stakeholders from commerce and industry in the external assessment. External moderation is the responsibility of the Department of Education and the council for general and further education and training quality assurance (Umalusi) (RSA, 2007b). Similarly, interview with TVET practitioner (Participant 4) in South Africa revealed that

examinations are centrally and nationally regulated. According to the participant, final examinations in technical and vocational education and training colleges are externally controlled and regulated by the Department of Higher Education and Training and the General and Further Education and Training Quality Council (Umalusi). Roles of the external moderators include monitoring and evaluating the standards of all summative assessments; maintaining standards and ensuring compliance with approved guidelines (RSA, 2007b).

In Nigeria, technical and business examinations are nationally administered and regulated by the National Business and Technical Examinations Board.

In Ghana, COTVET exercises central coordination and maintenance of assessment standards in the TVET sector by accrediting TVET providers before they conduct assessments and award certificates.

7.3.7 *Information and communication technology*

Information and communication technology is recognised as an instrument for facilitating teaching and learning in TVET systems in South Africa, Ghana and Nigeria. In South Africa, ICT is seen as a tool for improving the quality of TVET delivery and for facilitating access. Similarly, ICT is acknowledged as an instrument for advancing knowledge and skills in Nigeria. In Ghana, although internet access is limited due to high cost, and with internet facilities mainly confined to urban areas, the policy recommends that ICT should be integrated in the TVET curriculum as it has penetrated into the industry sector.

ICT has the potential and capacity to facilitate the provision of TVET and improve the quality of delivery. It facilitates TVET access and management of the TVET system.

A study by Shamim, et al. (2011) on the influence of ICT on TVET indicates that it motivates students, improves communication and facilitates teaching and learning. Similarly, Leidner and Jarvenpaa (1995) comment that ICT enhances the quality of teaching and learning processes.

In South Africa, the fast-tracking data-collection, record-storage and retrieval capacity of ICT (as noted by Necesito, Santos & Fulgar, 2010) makes its inclusion in the TVET system crucial for improving governance, management, decision making, communication and access to information. Responses of interview conducted with TVET stakeholders revealed that technical and vocational education and training colleges have information and

communication technology facilities in terms of computers to facilitate teaching and learning including improving administrative processes. Chinien (2003) regards ICT as important and necessary for administrative processes and system control in TVET systems.

ICT needs to be incorporated in the TVET systems of the countries covered by the study because of the role it plays in improving the quality of educational provision (Sarkar, 2012; Mikre, 2011).

7.3.8 Funding of TVET

Funding of TVET is generally similar in the countries covered by the study. In South Africa, government subsidises a greater percentage of programme costs. In Ghana, the policy document indicates that TVET could not be funded adequately by government alone, and sustainable ways to fund the sector are therefore required. Similarly in Nigeria, TVET is mainly funded by government both at federal and state levels.

In South Africa, in addition to procurement of teaching and learning facilities and payment of staff salaries, the funding framework for TVET is also intended to support the principles of access, redress and equity (RSA, 1998b; UNESCO, 2014). Building and expanding a responsive technical and vocational education and training system greatly depend on adequate and sustainable funding system. Major sources of funding post-school system, which also involves the technical and vocational education and training system include fund from government, fund through the levy-grant system and fund generated through student fees.

Recognizing the imperative of funding for skills development in South Africa, the National Skills Fund was established in 1999 in terms of the Skills Development Act, 1998 to support the implementation of the National Skills Development Strategy (RSA, 2006). Functions of the National Skills Fund include promoting skills development for socio-economic growth, employment and national development.

However, the funding model in the university sector in South Africa which was intended to bring about greater equity between historically black universities and those which were more advantaged in the past has not succeeded in doing so (RSA, 2012).

In Ghana, the TVET sector requires adequate funding for the procurement of teaching and learning facilities and for personnel emoluments. Government alone not being able to

sufficiently fund the sector, it has identified the following additional sources of funding: increased training fees charged in institutions, establishment of a skills development fund, contributions from industry, labour and trade unions and mobilising of resources from external sources.

Funding of education in Nigeria is generally the responsibility of federal, state and local governments. However, the government also encourages non-governmental organisations, individuals, communities and industry to contribute towards the development and improvement of education and training in the country.

Adequate funding of TVET to support teaching and learning facilities would improve the quality of the entire TVET system and the qualifications it offers, making government intervention a crucial factor. In Africa, according to Oketch (2007), governments are the primary source for such funding. Bolina (1996) comments that government intervention in provision of TVET helps to ensure social equity, noting that funding the TVET sector allows governments to exercise control over the quality of programmes offered.

Sources of TVET funding other than government include student fees, and donations from private organisations, industry, non-governmental organisations, communities and individuals. Atchoarena and Esquieu (2002) indicate that tuition fees, plus private donor funding, are a particularly important source of revenue for TVET providers in the private sector. However, Bolina (1996) cautions that relying on training fees as a primary source of funding is not advisable as it cannot adequately cover training costs.

Inadequate funding has a detrimental impact on the quality of TVET programmes and delivery. Kingombe (2011) notes that lack of funding can mean that TVET institutions have to manage with obsolete teaching and learning facilities, and a similar point is made by Yakubu (2003b), commenting on the link between inadequate funding and inadequate equipment.

Overall, sources of funding for TVET include governments, the industry sector, individual contributions, training fees, trust funds, services rendered by training providers, levies and loans (Bolina, 1996; Atchoarena, 1996; RSA, 2012; Oketch, 2007).

7.3.9   TVET delivery sites and entry requirements

The sites for TVET delivery in the countries covered by the study are generally similar. In South Africa, technical and vocational education and training, equivalent to grades 10 to 12, is chiefly provided in Further Education and Training colleges, now referred to as Technical and Vocational Education and Training colleges (RSA, 2013b), which are situated within the FET band. Other institutions that offer technical and vocational education and training programmes in South Africa include universities, school of nursing, agriculture and other related institutions (RSA, 2012; RSA, 2013a; HRDC, 2014). However, the Department of Higher Education and Training (RSA, 2012) noted that some universities of technology have lost focus of producing their mandates such as technicians, technologists and mid-level skills at the undergraduate level.

In South Africa, entry requirements for TVET colleges include youths who pass grade 9, youths with grades 10 and 11 (RSA, 2008).

Interview with TVET practitioners in South Africa indicated that the usual admission requirement into technical and vocational education and training colleges is grade 9; that is, learners who have passed grade 9. However, the responses indicated that youths with matric also apply and were given admissions.

Entry requirements into higher education institutions include National Certificate Vocational (NCV) level 4 of the National Qualifications Framework. However, the participants revealed that universities always have problems accepting the technical and vocational education and training qualifications, especially the NCV 4, which is equivalent to matric.

In Ghana, TVET delivery takes place in TVET institutions that include technical institutes, farm institutes and vocational training institutes at levels equivalent to senior secondary school grades 9 to 12, in addition to various TVET programmes that are offered in universities, polytechnics and other private tertiary institutions.

Entry requirement for TVET institutions after junior high school in Ghana is the Basic Education Certificate examination (BECE). In addition, entry requirements for certain TVET institutions are determined by the ministries, departments and agencies that established them.

In Nigeria, the sites for TVET delivery are technical colleges (equivalent to senior secondary school grades 10 to 12), plus universities, polytechnics and colleges of education (technical).

196

in Nigeria, the minimum entry requirement for technical colleges is presently the Junior School Certificate, obtained on successful completion of junior secondary school. However, the introduction of nine-year compulsory basic education in Nigeria (UBEC, 2013) means that the entry requirement for the technical colleges will in future be based on the performance of students in the Basic Education Certificate examination at the end of the nine-year basic education programme.

The similarity in entry requirement levels and TVET delivery levels in the three countries covered by the study indicates that TVET is given similar recognition and is similarly regarded as education that in general follows immediately after compulsory basic education. Technical and vocational education and training is delivered at higher education levels in all the countries covered in the study.

UNESCO (2010) recognises that TVET can be delivered in different types of institutions and at different levels, and this, according to Afeti (2009) is what can be found in Africa. Kronner (2005) notes that TVET could be delivered at secondary and post-secondary levels, and Afeti (2009) extends this observation to include technical schools, polytechnics and apprenticeship training centres.

7.3.10 TVET Challenges

The challenges that have to be met in TVET, as indicated by the policy documentation examined in this study, are largely the same in South Africa and Ghana. Nigeria's TVET policy is silent on this point. Similar challenges in the TVET sectors in South Africa and Ghana include negative perception of the sector by the public, unresponsive TVET programmes, insufficient funding of the sectors, and lack of efficient management information systems.

7.3.10.1   TVET Challenges in South Africa

Challenges facing technical and vocational education and training in South Africa include poor coordination of the sector, poor access, low student participation in TVET programmes, poor TVET programmes and qualifications, low pass rates and poor quality of TVET graduates. Further problems are shortage of qualified staff and lack of understanding of the TVET sector (RSA, 2008). These challenges need to be addressed and overcomed for the sector to play a meaningful role in providing skills necessary for employment and for economic and national development.

Interview with technical and vocational education and training practitioners in South Africa revealed that challenges bedevilling the TVET sector include societal negative perception of technical and vocational education and training, ignorance of the role of technical and vocational education and training, lack of adequate qualified staff and inadequate teaching and learning facilities. The participants interviewed indicated that the society is ignorant of the role and capacity of TVET of providing employable skills, hence the negative perception of the sector.

Responses of the participants interviewed revealed that technical and vocational education and training is viewed as a sector designed for learners who could not perform or cope academically or for dropouts (Participant 1, 2, 3 & 4). The participants lamented that TVET is not seen as a serious and worthy career for learners to pursue and that learners in the TVET system are considered inferior compared to learners in the traditional school system. While commenting on the perception of technical and vocational education and training, Akoojee (2008b, p. 16) noted that ―technical education was associated with sub-standard education designed for manual work associated with Apartheid economic, social and educational exclusion". This perception places technical and vocational education and training as an inferior form of provision and considered as a sector for school dropouts.

Another major challenge acknowledged by practitioners of technical and vocational education and training in South Africa was non-recognition of technical and vocational education and training qualifications by universities for admission. Responses of the participants indicated that universities have problems accepting TVET qualifications for admission, especially the NCV 4, which was expected to be accepted for entry into universities or higher education (Participant 3 & 4). Department of Higher Education and Training (DHET) notes that non-acceptance of TVET qualifications for admission by universities is a challenge.

> A serious problem facing students who have completed the NCV is that universities do not normally admit NCV graduates, even if their marks are good, unless there is a specific agreement between a particular university and the FET College where the student completed their NCV (RSA, 2012, p. 23).

The department indicates the need to review this position to avoid making any qualification a dead end that could not lead to higher qualifications.

7.3.10.2　TVET Challenges in Ghana

In Ghana, particular challenges confronting the technical and vocational education and training sector include poor collaboration with industry and inability to meet skills demand of the economy. Collaboration with industry is critical for a successful competency-based technical and vocational education and training delivery, and also for meeting the skills demand of industry and the economy.

Interview with practitioners of technical and vocational education and training in Ghana revealed that inferiority complex is a challenge in the TVET sector. According to the participants (Participant 5), people who take the traditional academic path are held in higher esteem and earn higher than those who went through technical and vocational education and training. The responses indicated that traditional professions like medicine and law were considered to have higher prestige than career paths within the technical and vocational education and training system.

7.3.10.3　TVET Challenges in Nigeria

Although Nigeria's National Policy on Education (FRN, 2004) is silent about challenges in the TVET sector, the problems of TVET in Nigeria include poor public perception and inadequate funding (Raimi & Akhuemonkhan, 2014; Awe, Stephenson & Griffith, 2009). Other problems are unqualified teachers, inadequate teaching facilities and lack of a guidance and counselling system (Ohiwerei & Nwosu, 2013).

Interview conducted with practitioners of technical and vocational education and training in Nigeria indicated that challenges of technical and vocational education and training in the country include inadequate teaching and learning facilities, negative perception of the sector and lack of awareness of the role of technical and vocational education and training. According to the participants, despite the fact that technical and vocational education and training provides skills necessary for employment and economic growth, the society considers it as a system for the dropouts and for students who are academically challenged.

Difficulties encountered in TVET systems affect the quality of provision and the broader developmental characteristics of the sector as a whole. According to Awe, Stephenson and Griffith (2009), one of the most serious obstacles to economic development in many countries is shortage of qualified workforce. Unqualified personnel can lead to poor coordination and management of a system, and Usman and Pascal (2009) note that

inappropriate personnel can lead to failure in TVET programmes. According to the African Union (2007), the TVET sector lacks professionals that could effectively and efficiently run the sector. Among the numerous other challenges facing the TVET sector are poor organisation, outdated curricula, low status, lack of recognition and unqualified managerial staff (McGrath, 2005; Osuji, 2003; Eilor, 2008; Yihunie, 2011; Afeti, 2009; Amedorme & Fiagbe, 2013).

7.3.11 TVET lecturers

7.3.11.1   South Africa

In South Africa, technical and vocational education and training institutions employ their lecturers and support staff in compliance with statutory employment regulations. In terms of the laws pertaining to employment in the Republic of South Africa, and in particular the Further Education and Training Colleges Act No. 16 of 2006 (RSA, 2006a), TVET institutions are the employers of all academic and support staff. Recruitment of lecturers should be guided by a national lecturer development framework, which spells out the requirements for a lecturer in terms of qualifications, knowledge and skills in line with the policy on professional qualifications for TVET lecturers (RSA, 2013a) in which these qualifications and basic competencies are spelt out.

Qualifications selected for lecturers in technical and vocational education and training in South Africa as indicated in the policy on professional qualifications for TVET lecturers include Bachelor of Education in technical and vocational teaching, Bachelor of Education (Honours), Master of Education and Doctorate degrees. Others are Postgraduate Diploma in TVET, Advanced Diploma in Technical and Vocational Education and Teaching, Advanced Diploma in TVET, Diploma in Technical and Vocational Teaching and Advanced Certificate in Technical and Vocational Education and Training (RSA, 2013a). The policy also provided that lecturers in technical and vocational education and training need to be competent in both theory and practice.

Interview with practitioners of technical and vocational education and training in South Africa (Participant 2) revealed that employment of some TVET lecturers were based on industrial practical experiences rather than on professional qualifications approved for technical and vocational education and training lecturers as indicated in the policy on professional qualifications for TVET lecturers in the country. The participant noted that

lecturers employed from the industries based on their practical skills without pedagogical training and qualifications are not qualified lecturers.

7.3.11.2   Ghana

The Council for Technical and Vocational Education and Training (COTVET) (COTVET, 2012) noted that the situation for both initial and in-service training of technical and vocational education and training teachers in Ghana requires attention as teacher education lacks coherent policy and strategies to address the development and improvement of TVET teachers in the country. With the approval and introduction of competency-based TVET delivery in Ghana, the Council indicated that there is currently no provision for the introduction of the CBT approach by institutions where most TVET teachers are trained.

Interview conducted with practitioners (Participant 6) of technical and vocational education and training in Ghana revealed that technical and vocational education and training teachers were not prepared for the delivery of the competency-based TVET approach. The responses indicated that the approach requires active participation of the industry which according to the participant, the industries were not yet involved or ready for the system.

Technical and vocational education and training teachers in Ghana have limited opportunities for continuing training and industrial placements (COTVET, 2012).

In Ghana, there is need to review teacher-education policy to bring it in line with the CBT approach and thereby deliver qualified TVET teachers who can work according to the new approach. There is also need for capacity-building workshops and short-term training for serving TVET teachers. Ghana – where, as noted by Amedorme and Fiagbe (2013), TVET teachers are already in short supply – does not at present have a framework for teacher development in response to the growing need.

7.3.11.3   Nigeria

With TVET policy in Nigeria incorporated into the broader national policy on education, the policy noted that no education system shall rise above the level of its teachers. The general policy comments about teacher education should be applicable to teachers in all sectors of education and training in the country including technical and vocational education and training. Fareo (2013) points out that quality education in Nigeria is crucially dependent on adequately prepared teachers, since, in all countries, the quality of education and graduates is

a reflection of the quality of teachers (see also Ololube, 2008). Olakulehin (2007) sees teacher development as the most worrisome challenge in the education system.

TVET teachers must be fully prepared to meet the rapidly changing needs of the student and of industry, and for this to be achieved teacher development frameworks should be developed in all countries. The African Union (2007) notes that provision of quality TVET depends on the competence of the teacher in terms of pedagogical, theoretical and technical skills. Similarly, Baffour-Awuah and Thompson (2012) assert that performance of TVET teachers is greatly influenced by their quality.

TVET teachers have dual goals: to provide students with employable skills and also to prepare them for higher education (Donkor et al., 2009). TVET teachers' development programmes should therefore prepare them for the delivery of both practical skills and theory, and this requires the creation of learning environment where student teachers can relate theory to practice (Donkor et al., 2009). Effective collaboration between TVET teachers and industry would improve the competence of TVET teachers and ensure that TVET programmes are responsive to the needs of the industry (UNESCO, 2012).

7.3.12 Student population

In South Africa, student enrolment in TVET programmes is expected to exceed one million by 2014. In Ghana, enrolment in public TVET institutions was inconsistent, with a gradual increase between 2007 and 2011. In Nigeria, TVET policy is silent on issues pertaining to student population.

Enrolment of students in TVET institutions has been made a priority in South Africa, with systematic and gradual expansion of numbers matched with appropriate student support systems which would increase access for disadvantaged students. On this point, the Department of Higher Education and Training (RSA, 2012) indicates that the vision of the department is for a substantial increase of TVET students through provision of diverse programmes, improved access and establishment of new TVET institutions and campuses, matched by adequate numbers and quality of teachers (Akoojee, 2008a).

In Ghana, although enrolment in TVET institutions fluctuated there was a gradual increase between 2007 and 2011, and government policy of giving grants to institutions based on number of students enrolled helped to boost TVET enrolment. There are a number of reasons why fewer than 10% of students who completed basic school enrol in TVET institutions.

These include the limited number of institutions, negative perceptions of TVET, and the cost factor in establishing TVET institutions. Incentives such as financial support are available for females who wish to enrol for TVET programmes, which Baffour-Awuah and Thompson (2012) recommend that they should be encouraged to do.

Increase in student enrolment in TVET should be matched with increase in TVET programmes to meet the diverse needs and interests of students. Flexible TVET systems should be developed to attract students, and financial support should be provided for disadvantaged students. A range of TVET programmes should be offered to meet the varied needs of students, communities, industry sectors and the nation at large. Rojewski (2002) recommends that different programmes should be offered to provide for the diverse interests and groups of students. Education White Paper 4 (RSA, 1998a) indicates that diverse programmes and qualifications should be offered that would meet the varied needs of students.

7.3.13 *Partnership with industry*

All three national policies acknowledge the value of partnerships between industry and TVET institutions, although they differ in their methods for identifying appropriate industry partners. In South Africa, the responsibility for establishing partnerships with industry lies with the TVET institutions. In Nigeria, industrial attachment for both staff and students is centrally organised by the Industrial Training Fund in conjunction with the institutions, proprietors and industries. In Ghana, the importance of partnerships between government (and its agencies) and industry is emphasised in the COTVET Act. The policy document is silent about methods for establishing such partnerships, but Baffour-Awuah and Thompson (2012) indicate that the responsibility for facilitating collaboration between TVET institutions and industry lies with COTVET.

The benefits flowing from partnerships between TVET institutions and industry include placement of students in workplaces for relating theory with practice (Donkor et al., 2009), acquisition of practical experience(Arthur-Mensah & Alagaraja, 2013), improved opportunity for employment when students complete their programmes, and placement of staff in workplaces to keep them up-to-date with developments in industry. The African Union (2006) notes that partnership between TVET providers and industry enhances the responsiveness of TVET programmes.

7.4 Differences between the TVET policies of South Africa, Ghana and Nigeria

7.4.1   Programme monitoring and evaluation

South Africa, Ghana and Nigeria have diverging approaches to programme monitoring and evaluation in their TVET systems. In South Africa, programme monitoring and evaluation is integrated in the TVET system. In Ghana, the TVET policy recognises the importance of systematic monitoring and evaluation but it has yet to be fully implemented in the TVET sector. In Nigeria, the policy is silent about programme monitoring and evaluation in the TVET system.

In South Africa, programme monitoring and evaluation is fully integrated in the TVET system as an instrument to determine whether the goals of the system and of the institutions are being achieved. Indicators of success or weakness against which TVET performance in South Africa can be measured include retention and pass rates of students in TVET programmes and national throughput rates. Others are number of graduates who find employed, number of students who access higher education, and number of women in scarce skills programmes.

In Ghana, the importance of programme monitoring and evaluation is recognised, but it has not been implemented beyond the piloting phase of CBT, which was monitored and evaluated to determine its effectiveness, strengths and weaknesses and indicate potential for improvement and consolidation. The success of the monitoring and evaluation in the piloting phase indicated that similar monitoring and evaluation should be extended to entire TVET system.

Nigeria's TVET policy, as incorporated in the broader national policy on education, makes no specific mention of programme monitoring and evaluation in the TVET sector, but inspectorate services established at federal, state and local government levels are responsible for monitoring and maintaining standards across the entire education and training systems in the country below tertiary level.

Programme monitoring and evaluation is a system for measuring and evaluating institutional and systemic performances in TVET systems to determine their effectiveness, performances, weaknesses and successes with a view to ongoing improvements and consolidations. It is a system for providing feedback about TVET programmes and their effectiveness to TVET stakeholders. According to Rojewski (2002), the quality of a programme hinges on a range of

factors such as graduation rates, dropout retention and job placement. Wahba (2012) describes monitoring and evaluation systems as instruments for measuring and determining performances and effectiveness of the TVET systems and providers. Borkar and Paturkar (2013) see monitoring and evaluation as a system for providing necessary information for improvements, funding and learning, and for Necesito et al. (2010) this is a process of checks and balances whose purpose is to provide feedback about the effectiveness and efficiency of providers and systems.

7.4.2 *National qualifications frameworks*

7.4.2.1 *South Africa*

Having inherited a technical and vocational education and training system with TVET institutions governed, managed and funded differently based on apartheid policy in South Africa, the National Qualifications Framework was established through the South African Qualifications Authority (SAQA) Act in 1995 as a means of addressing inequalities in education and training across different racial groups in South Africa (Chisholm, 2007; RSA, 2008). Similarly, Allais (2007) noted that the National Qualifications Framework in South Africa was established as an instrument for overhauling the racially divided and unequal apartheid education policy.

In South Africa, the NQF has been used as an instrument to transform the TVET sector by functioning as a central and integrated body for assessment of learning achievement. As set out in the National Qualifications Framework Act, No. 67 of 2008 (RSA, 2009) the objectives of the National Qualifications Framework include facilitating access to, mobility and progression within education, training and career paths; improving the quality of education and training; accelerating the redress of past unfair discrimination in education, training and employment opportunities and thereby contributing to the full personal development of each learner and the social and economic development of the nation at large. Similarly, the national Departments of Education and of Labour (RSA, 2002) cite the NQF as a transformative mechanism to redress injustices and improve access to education and training.

The National Qualifications Framework in South Africa serves as an instrument for providing equal opportunity for education, training and employment and promotes economic growth and development through the provision of skills to all citizens. The National Qualifications Framework provides opportunities for those who were discriminated in the past because of

their race or gender to enter or re-enter the education and training system or the labour market. Other benefits of the National Qualifications Framework include promoting flexibility in education and training, making qualifications more responsive to the the needs of the individual, society and the economy and promoting participation in skills development in the workplace. National Qualifications Framework increases transparency of job opportunities and qualifications and also considered as a system that unifies the entire education and training system in South Africa Allais, 2003).

7.4.2.2   Ghana

In Ghana, a TVET qualifications framework is being introduced to facilitate linkages between the TVET sectors (formal, informal and non-formal). It has yet to be fully implemented, owing to difficulties encountered by COTVET as the apex body for coordinating and regulating TVET provision, responsible for advising on and establishing the framework (Baffour-Awuah & Thompson, 2012).

7.4.2.3   Nigeria

TVET policy in Nigeria is silent about a national qualifications framework, but in December 2010 a committee was appointed to develop a national vocational qualifications framework for the country (NBTE, 2011). Following submission of a report by the committee, a six-level national vocational qualification framework was approved for Nigeria by the Federal Executive Council (FEC) in 2013 (NBTE, 2014). Objectives in establishing the framework include improving the relevance of TVET qualifications, providing mechanisms for recognition of informal and prior learning, and engaging the industry sector more effectively in the development of skills and competence of their staff (Abubakar, Kazaure & Yusuf, 2013).

National qualifications frameworks in relation to TVET systems in South Africa, Ghana and Nigeria differ significantly. In South Africa, the objective in establishing a national qualifications framework was to transform the TVET system. In Ghana, introduction of a national TVET qualifications framework (still to be fully implemented) is aimed at improving linkages between formal, informal and non-formal TVET systems under a competency-based modular system.

Despite differences in the establishment and implementation of national qualifications frameworks, and in their levels and extent, in the TVET systems of the countries in this

study, some of the reasons underpinning their establishment are the same. In each case a national qualifications framework is seen as a system that enables recognition of prior learning, brings coherence to the TVET system, facilitates articulation, and improves quality of education and training.

A study by Allais (2010) on implementation and impact of national qualifications frameworks across 16 countries reveals that regardless of differences in the contexts of the countries in the study, some reasons for introducing NQFs were the same. They facilitate access, mobility and progression through recognition of prior learning in technical and vocational education, they improve the quality of TVET provision, they bring coherence, and they promote equity in education and training. Reasons for their establishment may differ from country to country, but, as noted by Tuck (2007), they have been used internationally to reform education and training systems – in some countries the objective being to facilitate articulation between skills required in workplaces and qualifications, in others to bring coherence and improve the quality of TVET provision. Overall, they promote the provision of consistent and nationally recognised qualifications (Qureshi, 1996).

7.4.3 *Quality assurance*

Establishment and implementation of quality assurance systems for technical and vocational education differ in the countries covered by the study.

In South Africa, TVET programmes offered at NQF levels 2-4 are quality-assured by the Council for Quality Assurance in General and Further Education and Training, more generally known as Umalusi, in accordance with the provisions of Quality Assurance Act, No. 58 of 2001 (RSA, 2001).

In Ghana, although aspects of quality assurance have been identified for the TVET system, it has not yet been fully implemented beyond the piloting programmes for CBT. Aspects identified in regard to quality assurance include registration of occupational standards and qualifications, registration of TVET providers, accreditation of providers, ongoing verification of assessment and systemic verification. The delay in full implementation of quality assurance is one of the weaknesses of the present TVET system in Ghana, potentially allowing different standards of TVET provision by different TVET providers.

In Nigeria, TVET policy, as incorporated in the broader national policy on education, makes no specific mention of quality assurance of the TVET programmes, but the general policy

207

comment about quality assurance should apply across the entire spectrum of education in the country. The overall national policy on education indicates that inspectorate services should be established at federal, state and local government levels, which would be responsible for monitoring and maintaining standards at all levels of education below the tertiary level. Also relevant here is the newly-established national vocational qualifications framework already mentioned (see 7.4.2 above).

A quality assurance system is an instrument through which quality in TVET is guaranteed both at institutional and systemic levels. The role of quality assurance in TVET systems includes improving the quality of programmes and standards control. Quality assurance can be used to achieve compliance with standards by TVET providers for the purpose of sustaining quality. It is widely used by governments as an instrument for securing accountability (Harvey & Newton, 2007). Quality assurance involves a range of activities undertaken to ensure that a standard is maintained (Kuboni, 2002). Approaches to quality assurance include audit, accreditation and assessments (Harvey & Newton, 2007; Anderson et al., 2000; Yakubu, 2003b).

7.4.4   *Articulation*

7.4.4.1   *South Africa*

Vertical and horizontal articulation between technical and vocational education and training programmes and institutions were acknowledged and recommended in the national plan for further education and training colleges in South Africa (RSA, 2008). Articulation involves movements of learners in different pathways in education and training (RSA, 2006b). Technical and vocational education in South Africa should enable both horizontal and vertical articulations between programmes. Horizontal articulation involves transfer of credit from one programme to another on the same level, while vertical articulation refers to progression from a lower-level programme to a higher-level programme (UNESCO, 2008). Vertical articulation also promotes progression to higher education. Horizontal and vertical articulation would provide opportunities for trainees to begin training, leave the training, and re-enter without repeating prior training (African Union, 2007).

Articulation to higher education qualifications should be achieved through cooperation and partnership (RSA, 2008). However, the Department of Higher Education and Training (RSA, 2012) in South Africa noted that the post-school system is characterized by lack of coherence and articulation. According to the department, students find it difficult to progress from

technical and vocational education and training colleges to universities and between schools and post-school institutions. Articulation between educational provision and the labour market is also a problem.

Interview conducted with a technical and vocational education and training practitioner (Participant 4) in South Africa revealed that there was problem of articulation between technical and vocational education and training colleges and higher education. According to the participant, graduates of TVET colleges find it difficult to progress or access higher education because universities seem to have problem accepting TVET qualifications, especially NCV 4 for admission.

7.4.4.2   Ghana

The 2004 TVET policy for Ghana (GoG, 2004) proposed that horizontal and vertical articulation would be encouraged in the education and training system. However, interview with participants in Ghana revealed that articulation between junior secondary school and technical institutes or technical secondary schools has not been encouraging. According to the participants, most students prefer to progress to traditional grammar schools on completion of their Junior Secondary Schools.

Articulation between TVET programmes would facilitate students' transition from one programme or level to another. Articulation would also enable students to proceed to higher education and would remove the negative perception that TVET leads to a dead end. Eilor (2008) asserts that horizontal and vertical articulation with other levels of education would improve social perceptions of TVET.

According to UNESCO (2008), articulation provides added value to graduates of TVET systems and provides opportunities for pursuing higher education. On the other hand, lack of articulation would impede the development and progress of individuals (Qureshi, 1996).

7.4.5   Strengths of TVET systems
7.4.5.1 Strengths of South Africa's TVET system
Although, technical and vocational education and training is faced by different challenges in different countries, the system also has its strengths in each country. The strengths of the technical and vocational education and training system in South Africa include _high political will' to develop, provide and strengthen technical and vocational education and training and the recognition of skills development as a national priority. High political will and

recognition of skills development as a national priority in South Africa is evidenced by the establishment of comprehensive TVET policy that comprises all the TVET policy areas identified by UNESCO which also served as comparative categories for this study.

Strengths of TVET system in South Africa also include the existing related policies, Acts, White and Green papers, plans, initiatives and strategies for skills development and training such as: the National Plan for Further Education and Training Colleges (RSA, 2008); Skills Development Acts (RSA, 1998); Education White Paper 4 (RSA, 1998a); Accelerated and Shared Growth Initiative in South Africa (AsgiSA) (Akoojee, 2008b); National Skills Development Strategies; Sector Education Training Authorities (SETAs) (RSA, 2014) and National Skills Fund (NSF) (RSA, 2006). Other strengths of the TVET system in South Africa include the establishment of the National Qualifications Framework system and the introduction of policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training.

Coordination of technical and vocational education and training nationally and centrally is also one of the strengths of the technical and vocational education and training system in the Republic of South Africa including the policy of cooperative governance.

Strengths of the TVET system in South Africa also include the commitment and aspiration of the technical and vocational education and training system to provide equal opportunity to education and training for all citizens.

7.4.5.2 Strengths of Ghana's TVET system
The strengths of Ghana's technical and vocational education and training system include the high priority given to demand-driven TVET system and competency-based education and training; establishment of the council for technical and vocational education and training to coordinate, regulate and supervise the provision and development of technical and vocational education and training in the country and the recognition and subsequent establishment of national TVET qualifications framework.

Furthermore, provision of a comprehensive policy for technical and vocational education and training in Ghana is an important strength that provides a guide for TVET provision, delivery and development.

7.4.5.3 Strengths of Nigeria's TVET system

Enrolment of students, Provision and delivery of technical and vocational education and training at the tertiary level in Nigeria is encouraging, thus, making it one of the strengths of the TVET system in the country. Other strengths include the recognition of cooperative governance where the system is governed through the collective actions of all TVET stakeholders.

The next chapter presents insights for TVET policy (policy learning), implications and concludes the study with remarks and recommendations.

Chapter 8
Insights, Implications and Conclusion

8.1 Introduction

The previous chapter presented a comparative account of national TVET policies in South Africa, Ghana and Nigeria and a discussion of the major findings. This concluding chapter gives an overview of all the previous chapters, bringing together and reviewing the findings of the study as a whole with the focus on answering the research questions that guided the study as presented in Chapter 2. Gaps and silences relating to the conceptual framework and to UNESCO and ILO standards and recommendations for policy areas will also be highlighted and discussed. The significance of this study is also considered and discussed based on the findings of the study.

8.2 Retrospection and reflection

Chapter 1 set out the general basis on which this study conducted in terms of purpose, rationale, background and research methods. It also outlined the questions that guided the study, and provided an overview of TVET in South Africa, Ghana and Nigeria as the three countries investigated for the study. Literature related to the study was presented in Chapter 2 followed by an outline of the research methodology in Chapter 3. Chapters 4, 5 and 6 presented the analyses of policies that pertain to the provision of TVET in Nigeria, Ghana and South Africa respectively, and discussion of findings was presented in Chapter 7.

8.3 Reflection on the background and purpose of the study

The need to provide individuals with skills necessary for employment, poverty alleviation and inclusion, and social, economic and national development has renewed the demand for a responsive TVET policies and systems. These demands have been reflected in various government policies and reports (RSA, 2006a; RSA, 2008; GoG, 2004; NBTE, 2011). TVET has been recognised having the capacity and potential to provide skills for employment and

national development (African Union, 2007; UNESCO, 2010). Responsive TVET policy will promote quality and responsiveness in the provision of skills (UNESCO, 2010; Afeti, 2009). Countries can also learn from one another in their development and improvement of TVET systems and policies (Lauglo, 2006), and this study accordingly explored, analysed and compared the TVET policies of South Africa, Ghana and Nigeria with a view to identifying instructive similarities and differences.

8.4   Reflection on related literature

The overview in Chapter 1 of TVET in South Africa also referred to in South Africa as ‒further education and training" (Akoojee, 2005b), indicated that it is delivered in FET colleges, now renamed as ‒technical and vocational education and training" (TVET) colleges (RSA, 2013b). In Ghana, TVET programmes are delivered in technical institutes, polytechnics, universities and other private institutions (COTVET, 2012), and in Nigeria, they are delivered in technical colleges, polytechnics, federal colleges of education (technical), universities and other related post-secondary tertiary institutions (FRN, 2004).

The literature reviewed in Chapter 2 indicated that TVET policies should be guided by education philosophies to achieve their visions and goals (Saleh, Hamzah & Mustaʻmal (2012). Common features among TVET philosophies include provision of skills for employment, production of highly skilled workers and the integration of academic subjects in vocational education and training (Wu, 2003).

Adequate funding of TVET was considered necessary for the delivery of high-quality TVET programmes. Governments were identified as the major source of funding for TVET in a number countries, along with other sources of funding that include training fees, industry, trust funds, community funding, and support by individuals and non-governmental organisations (Bolina, 1996; Atchoarena, 1996).

Quality assurance systems were identified as a process for ensuring and maintaining quality (Bateman, et al., 2009; Kis, 2005) and securing accountability (Harvey & Newton, 2007). Processes for assuring quality included assessment, accreditation, auditing and monitoring (RSA, 2001; RSA, 2008; Harvey & Newton, 2007). The concept of a national qualifications framework was cited as a means to establish coherence and improve quality in TVET provision, with some variations from country to country in the reasons for establishing such a measure (Chisholm, 2007), which can include system transformation (RSA, 2008, 2002),

improvement of access and quality of education and training (NBTE, 2014; RSA, 2002) and addressing inequalities in learning and job opportunities (Chisholm, 2007).

In recognition of the need for TVET curricula to be responsive to the needs of the student, the community and industry (Black, 1997), both society and industry should participate in the design, development and implementation of the curriculum (Qureshi, 1996). For better understanding of skills development processes and preparation of students for higher education, TVET curricula should include theory and general education (Rojewski, 2002) and should be periodically reviewed to keep abreast with technological developments and the changing needs of industry (Lauglo, 2006; Majumdar, 2007).

A perceived advantage of competency-based TVET was its industry- and demand-driven character (Anane, 2013), focusing on proficiency and what learners can do in the workplace (Walters & Isaacs, 2009), and promoting the acquisition of employable skills. A competency-based TVET curriculum signifies a curriculum that is based on skills and competencies that will be responsive to the needs of the labour market (Baffour-Awuah, 2010; Anane, 2013) and is in addition fundamentally student-centred (Boahin & Hofman, 2013).

Delivery of TVET should be flexible to facilitate access by a diverse student population. Instruction and delivery options include online delivery, videoconferencing, assignments, group work, discussions, weekend programmes and distance learning (Anane, 2013; Hampton & Bartram, 2002; Hampton, 2002; RSA, 2012). Information and communication technology has had a significant impact on the delivery of TVET, facilitating communication processes, data accessing (Necesito et al., 2010), administrative procedures and system control (Chinien, 2003). Sarkar (2012) and Mikre (2011) both comment that ICT improves the quality of education and training.

Student assessment in TVET, which is a process of gathering data and making decisions on a student's level of competence and performance (Curtis, 2010), was also seen as an instrument for improving teaching and learning (Pongi, 2004).

Partnership between industry and TVET providers thereby involving the industry in the education and training system was identified as a process for potential quality improvement in TVET delivery, in particular through enabling placement of students in the workplace for practical skills acquisition and thus allowing them to apply classroom learning to practical life experiences.

It was indicated that TVET is delivered in different institutions and at different levels from country to country, spanning formal, non-formal and informal sectors both public and private. In all sectors, the quality of the training delivered would be influenced by the quality of the teachers (Baffour-Awuah & Thompson, 2012).

8.5   Reflection on research methodology

This study explored, analysed and compared the TVET policies of South Africa, Ghana and Nigeria. The study adopted a comparative research design (Fitzgerald and Dopson, 2009; Gravetter & Forzano, 2009) in a qualitative and interpretive paradigm (Denzin & Lincoln, 2011; Remler & Van Ryzin, 2011; Guba & Lincoln, 1994). A cross-national comparative method (Halls, 1990; Hantrais, 1999) was employed to determine how the TVET policies of the countries covered by the study compare. The conceptual framework (Rojewski, 2002) for the study incorporated UNESCO (2001, 2010) and ILO (2005, 2008, 2010) standards and recommendations for policy areas as a guide in analysing and categorising the policy documents into 18 policy-thematic areas. Finally, 18 categories emerged which provided the basis for the analysis of the policies and also served as the comparative categories for the study.

8.6   Reflection on the conceptual framework

Rojewski's (2002) conceptual framework for CTE provided a guide for the study. The conceptual framework is made up of the following components: student assessment, curriculum, instruction and programme delivery options, programme evaluation and student populations. The conceptual framework advocated integration of academics in the TVET curriculum and improving articulation with post-secondary education. All the components of the conceptual framework emerged as policy areas in the analysis process, and were used as comparative categories for the study.

8.7   Responding to the research questions (major findings)

The following three research questions guided this study:

1.   What are the principal features of technical and vocational education and training policy in South Africa, Ghana and Nigeria?

2. How and why do the principal features of TVET policies in South Africa, Ghana and Nigeria coincide or differ?

3. How is the technical and vocational education and training policies experienced by TVET practitioners in these identified country contexts?

8.7.1 Q 1: The principal features of TVET policies in South Africa, Ghana and Nigeria

Research question one seeks to ascertain the nature of national TVET policies in South Africa, Ghana and Nigeria, which are broadly similar in purpose but differ in form and identity.

In South Africa, the FET Colleges Act (RSA, 2006a) establishes a unique statutory identity for the TVET sector, comprehensively specified in a separately published policy document (the *National Plan for Further Education and Training Colleges*). The policy is not embedded as a section or chapter in any broader national policy. Due to the comprehensive nature of the policy, all 18 of the categories that emerged from the overall analysis of the three national policies, and which constitute the comparative elements for the study, were reflected as policy areas in the South African national policy. Appendix 1 reproduces excerpts from the policy document which reflect the comprehensive nature of the South African TVET policy.

Similarly in Ghana, the Council for Technical and Vocational Education and Training has been established by statute (COTVET, 2012) to oversee, coordinate and regulate the provision of TVET in the country. The functions of the council also include formulating national TVET policies. A separately published and TVET policy document (COTVET, 2012) comprehensively outlines the operative policy. It is not embedded as a section or chapter in any broader national policy. Appendix 2 reproduces excerpts from Ghana's TVET policy document.

In contrast, Nigeria's TVET policy is embedded (see Appendix 3) as a section in the broader national policy on education (FRN, 2004). This inclusion of the TVET policy in the broader national policy on education could account for the non-inclusion of certain fundamental policy areas recommended by UNESCO (2001, 2010) and the ILO (2005, 2010). Afeti (2009) reminds us that an effective TVET system needs to be based on a well-developed and responsive national policy and the subsequent establishment of national coordinating and regulatory body.

TVET policies in South Africa and Ghana are thus comprehensively developed and published each as a separate entity, while Nigeria's TVET policy is embedded as a section in the broader national policy on education in that country. Appendix 3 reproduces the TVET policy of Nigeria embedded as section 7 of the broader national policy on education.

8.7.2   *Q 2: How and why these TVET policies features coincide or differ*

Research question two proposes a comparison between the TVET policies of South Africa, Ghana and Nigeria to determine similarities and differences and reasons for the similarities and differences. Some of the similarities extend to all three countries while some are present in just two of the three.

8.7.2.1 Similarities between TVET policies of South Africa, Ghana and Nigeria

Among the similarities that emerged from comparison of the three sets of national policy for TVET were issues relating to governance, philosophical foundations, curricula, instruction and programme delivery, examination and assessment, ICT, funding, sites of delivery, minimum entry requirements and partnership with industry. Similarities that were found in just two of the three national policies related to governance, definition, goals, challenges, lecturers and student population.

Philosophical principles guiding the provision of TVET in all three countries included equal access to training, development of individuals into effective citizens through the provision of knowledge, skills and attitude necessary for employment, and integration of theory and practice. Each of the three national policies specified that TVET curricula should include theory components, general education components and practice components, and that student assessments should be centrally and nationally coordinated. In each case, information and communication technology was recognised as an instrument for improving the teaching and learning processes and for facilitating access.

All three TVET policies address the issue of funding for TVET. Government is the principal funding source in all three countries, and other sources of funding include training fees plus contributions from industry, non-governmental organisations and trust funds.

Sites of TVET delivery in all three countries are mostly equivalent to senior secondary schools and grades 10, 11 and 12 in the traditional school systems. TVET programmes can however also be delivered in other institutions in affiliation with a higher institution or in a

university. In all three countries the minimum entry requirement for TVET institutions at the pre-tertiary levels is satisfactory performance at the end of basic education or grade 9 of the traditional school system. Partnership between TVET institutions and industry is also a recognised policy area in all three countries.

UNESCO (2001, 2010) and the ILO (2005, 2010) both highlight governance, coordination and planning of TVET as important policy areas. In South Africa, Ghana and Nigeria TVET is centrally and nationally governed together with representation from key TVET stakeholders.

Vision and goals are significant component of a policy that guide development and provision of education and training systems, and feature in one form or another in each of the three national policies covered by this study. South Africa's national policy has statement of vision which the TVET institutions are intended to pursue, and the policy documents in Ghana and Nigeria's policies both indicate policy goals. The conceptual definition of TVET is similar in Nigeria and South Africa.

In South Africa and Ghana, challenges facing the TVET systems were indicated in policy documents. In South Africa, these included poor coordination of the TVET sector, negative public perception of TVET and lack of sector identity, poor access, poor quality TVET programmes and qualifications, poor success rate and poor technical and cognitive skills of TVET graduates. Others were unresponsive TVET programmes, insufficient TVET lecturers and managerial staff, inadequate funding, lack of effective management information system and lack of understanding of TVET (RSA, 2008; RSA, 1998a). In Ghana, the challenges included poor linkages with industry, low social acceptance, mismatch of demand and supply, lack of an effective management information system, and inability to meet skills demands of industry. Implementation challenges in Ghana included placement of COTVET under the Ministry of Education, ability to coordinate and regulate the provision of TVET at tertiary level, development of a national TVET qualifications framework, roll-out of piloted CBT, a plurality of statutes governing TVET at different levels and agencies, and limited involvement of industries in the competency-based training (COTVET, 2012). Nigeria's TVET policy is silent on challenges in the sector. Whereas problems relating to TVET lecturers and student population were indicated as policy issues in Ghana and South Africa, these are not alluded to in Nigeria's policy.

TVET policies in South Africa, Ghana and Nigeria were broadly similar and there are various reasons why this is so. All three TVET policies recognised TVET as having the potential and capacity to provide knowledge, skills, competencies and attitude necessary for employment, job creation, social and economic development, and national development, capable of alleviating poverty and developing individuals to become useful members of the society. In this regard, all three expressed similar aspirations for their respective TVET systems.

8.7.2.2 Differences between TVET policies of South Africa, Ghana and Nigeria

Areas of significant difference that emerged in the three national policies related to the establishment and implementation of programme monitoring and evaluation systems, national qualifications frameworks, quality assurance systems, and articulation between programmes in the respective national TVET sectors.

Monitoring and evaluation systems were not consistently addressed in all three TVET policies. In South Africa, the policy made it clear that a strong monitoring and evaluation system was required for the TVET system. In Ghana, the need for a monitoring and evaluation system was stipulated in the TVET policy, but with an acknowledgement it had not yet been implemented beyond the piloting stage. TVET policy in Nigeria made no mention of monitoring and evaluation of TVET programmes.

South African policy documentation indicated that the National Qualifications Framework (NQF) had been established to integrate education and training systems under the auspices of SAQA. A national qualifications framework was stipulated in Ghana's TVET policy but has not yet been fully implemented. TVET policy in Nigeria was silent about a national qualifications framework.

In South Africa, the policy documentation indicated that a quality assurance system had been established for the TVET system. In Ghana, quality assurance was acknowledged as a need, but noted in the policy as still to be fully implemented. Nigeria's TVET policy was silent about TVET quality assurance.

Another area of difference in the TVET policies was articulation between programmes in the TVET sector. In South Africa, the policy explicitly indicates the necessity of enabling vertical and horizontal articulation between TVET programmes. Neither Ghana nor Nigeria make any mention of articulation in their TVET policies.

Differences in TVET policies of South Africa, Ghana and Nigeria can be attributed to a number of reasons. All 18 of the categories that emerged from the analysis of the policies, and which were used as comparative categories for the study, were recognised in South Africa's policy. Ghana's TVET policy addressed 16 of these categories; Nigeria's TVET policy addressed 10. In other words, Nigeria's TVET policy is silent on eight categories while Ghana's policy is silent on two categories. One probable explanation for the differences could be the nature of the policies. In the case of Nigeria, TVET policy constitutes just one section in the broader national policy on education, and this could be why the full set of categories that emerged from the overall analysis of the policies, and which represent the extended range of TVET policy areas, is not reflected. The TVET policies of South Africa and Ghana are each independently and comprehensively formulated, rather than being incorporated in a broadly stated national policy. This means that they have a unique and specialised identity covering more policy areas. TVET national policy is expected to include all policy areas recommended by international policy principles (Aggarwal and Gasskov, 2013).

Differences in the TVET policies of South Africa, Ghana and Nigeria could also be attributed to the differences in political context for each of the countries. Social, economic and political developments in South Africa have been shaped by previous policies that were based on divisions and inequalities within the country, and in this respect the TVET system in South Africa is significantly influenced by the previous apartheid policies (Akoojee et al., 2005). More broadly, Aggarwal and Gasskov (2013) note that choice of policy can be influenced by a country's context, and divergent historical, political and economic contexts may well account for differences in TVET policies in various countries (Atchoarena & Delluc, 2002, Arthur-Mensah & Alagaraja, 2013). In addition, the ILO (2010) notes that differences in TVET policies are informed by differences in demographic and economic levels of development. Effective and responsive TVET policy should be based on the socio-economic context of each country (African Union, 2007; ILO, 2010).

Political goals and priorities also contributed to the differences in the TVET policies in the three countries considered in this study. In South Africa, access and equity to education and training are both political priorities and also TVET policy priorities. In Ghana, the goals of TVET reforms include a shift from supply-driven to demand-driven and competency-based TVET delivery approaches. Lauglo (1993) contends that TVET policy is shaped by political goals, interest and priority.

8.7.3 Q 3: How technical and vocational education and training is experienced in South Africa, Ghana and Nigeria

Research question three seeks to ascertain or establish how technical and vocational education and training policies are experienced in South Africa, Ghana and Nigeria.

South Africa

Experiences of technical and vocational education and training (TVET) practitioners in South Africa revealed that although, technical and vocational education and training is recognized as a system with the capacity to provide skills required for industrial, economic and national development and also for employment, the sector is bedevilled by challenges capable of hindering the system from achieving its goals and visions. These challenges, as revealed by the responses of TVET practitioners when interviewed include inadequate funding, inadequate facilities for teaching and learning and negative perception of the TVET sector. Responses of the participants also indicated that TVET governance was not free from challenges.

Interview conducted with practitioners of technical and vocational education and training in South Africa revealed that technical and vocational education and training is not adequately funded. Inadequate funding for technical and vocational education and training has serious negative implications on the quality of TVET delivery and the TVET system in general. Responses of the participants revealed that inadequate funding of the TVET sector contributed to the employment of unqualified teachers as management of TVET colleges always complain of lack of adequate funds for the running of the institutions.

Other challenges confronting the technical and vocational education and training sector, as revealed by the participants, was inadequate teaching and learning facilities. In addition to the challenge of inadequate facilities, the participants indicated that the available facilities were not the modern type, implying they were obsolete, requiring replacement. The participants therefore expressed the need to adequately equip TVET institutions with modern teaching and learning facilities. According to them, effective teaching and learning would only take place if adequate facilities are available. However, some participants indicated that they have facilities in some departments for teaching but that their problem was inadequate classrooms, which limit student's enrolment into TVET programmes.

Responses of the participants revealed that negative perception towards technical and vocational education and training is one of the challenges facing the sector. According to the participants, technical and vocational education and training is negatively perceived and this negative perception positioned technical and vocational education and training (TVET) as a sector for the academically challenged; a sector with low status; a sector seen as a last option or a sector for the drop-out.

According to the practitioners, learners who were sent away from the traditional school system because of poor academic performance or disciplinary measures were admitted into the technical and vocational education and training (TVET) colleges. This practice, according to the practitioners, is a challenge for the system as it would be viewed as a sector for the drop-outs.

Similarly, the practitioners revealed that learners who go to technical and vocational education and training colleges are those who could not secure admission or continue in the traditional school system basically due to poor or low grades. This practice, according to the TVET practitioners, is also a challenge for the sector as it lowers the quality of the system and contributes to the negative perception of the sector by the public.

Responses of the participants indicated that technical and vocational education and training was viewed by the society as a sector designed for learners who could not cope with the normal academic activities in the traditional school system. According to the participants, the public see technical trainees as people who are not intelligent and of less status. They (Practitioners) revealed that TVET graduates are looked down upon and held in low esteem.

Responses of the participants also revealed how technical and vocational education and training is governed in South Africa. According to them, TVET colleges are governed by the college councils under the auspices of Department of Higher Education and Training (DHET). The lecturers revealed that most of them were employed by the college councils, which comprises of the principal (referred to as Rector), representatives of staff, students and other external members.

While commenting on TVET programmes, the practitioners indicated that technical and vocational education and training curriculum was designed to provide skills necessary for employment and self-reliance and to provide skills for socio-economic and national development. The participants noted that TVET curriculum comprises of both theory and

practice as some of them revealed that they also teach the theoretical aspects of the curriculum. The theoretical component includes the delivery of traditional school subjects that support the development of skills and knowledge within occupational programmes and also promote progression to higher education.

The participants indicated that Department of Higher Education and Training (DHET) oversees the affairs of technical and vocational education and training colleges and that examinations and programmes are quality assured by the council for General and Further Education and Training Quality Assurance (Umalusi).

Commenting on sites of TVET delivery, the participants indicated that technical and vocational education and training programmes are delivered in universities, technical and vocational education and training (TVET) colleges and all related institutions. Entry requirement into TVET colleges include successful completion and passing of grade 9. However, the TVET practitioners revealed that youths with matric also apply and are given admission. The participants revealed that NCV 4 is the requirement for entry into higher education but that the universities always have problems accepting the TVET qualifications, especially the NCV 4.

Appendix 6 presents excerpts of interview transcripts of participants from South Africa.

Ghana

Experiences of TVET practitioners in Ghana revealed that the TVET sector is faced with challenges that require the attention and intervention of all TVET stakeholders in the country in order to provide a qualitative and responsive technical and vocational education and training. Responses of the practitioners during an interview revealed that the challenges bedevilling the TVET sector include inadequate funding and teaching/learning facilities. Others are poor public perception of the TVET sector and governance challenges.

Responses of the TVET practitioners in Ghana indicated that technical and vocational education and training in Ghana is delivered under the supervision of different ministries, departments and agencies. This practice, according to the participants, poses a challenge for the system as each supervisory agency or department has its own policy and standard. This implies that the quality of TVET provision and delivery would vary from one department or ministry to the other. However, the participants revealed that the council for technical and vocational education and training (COTVET) was established to coordinate and regulate

223

TVET provision in the country with the view to bring coherence, maintain standard and ensure quality TVET delivery.

The participants revealed that the council for technical and vocational education and training (COTVET) introduced competency-based technical and vocational education and training delivery in the TVET system in the country. However, according to the participants, the Council seems not to be ready for the shift in the delivery approach as according to them, most teachers are not prepared or familiar with the competency-based training approach. They revealed that the competency-based training approach was experimented with only few institutions and that industries were also not prepared for the system as it requires active participation of the industries.

Pertaining to funding, the participants informed that technical and vocational education and training in Ghana is grossly under-funded. They lamented that teaching and learning facilities could not be repaired or replaced due to lack of funding and that staff could not attend workshops and conferences due to the same reason. According to the participants, teaching and learning facilities are not generally adequate in all TVET institutions across the country.

Interview with the participants indicated that technical and vocational education and training institutions in Ghana include technical institutes, farm institutes, vocational training institutes, polytechnics and universities. The participants indicated that after basic education, students prefer to go to grammar schools as against technical and vocational education and training institutions. When they go to technical schools, is either their grades are poor or they failed to secure admission into the traditional grammar schools.

The TVET practitioners interviewed revealed that technical and vocational education and training is negatively perceived. The responses indicated that the TVET system was inferior compared to the traditional school system.

Appendix 7 presents excerpts of interview transcripts of participants from Ghana.

Nigeria

Experiences of TVET practitioners in Nigeria revealed that the TVET sector is faced with challenges which require the collective effort of all TVET stakeholders in the country order to get out of the challenges. Interview with TVET practitioners in Nigeria revealed that the

challenges facing the sector include inadequate funding and teaching facilities. Others are poor public perception of the TVET sector and governance challenges.

Interview conducted with practitioners of technical and vocational education and training in Nigeria revealed that technical and vocational education and training outside university provision is coordinated and regulated by National Board for Technical Education (NBTE) while each university oversees and regulates its TVET programmes and provision. Different regulatory bodies for TVET provision indicate TVET governance by different bodies, which is a challenge for the TVET system.

While commenting on TVET curriculum, the participants indicated that the curriculum comprises of theory, workshop practice and entrepreneurship. According to the participants, traditional school subjects that provide the foundation for skills development and further education were also integrated into the curriculum.

The participants indicated that technical and vocational education and training is generally underfunded in the country. They revealed that the sector was better funded in the past compared to the present situation. Maintenance of teaching and learning facilities has become a problem due to inadequate funding. However, responses of technical and vocational education and training practitioners in another institution indicated that adequate teaching and learning facilities were provided. They revealed that computer laboratories were fully equipped and that most of the staff were provided with computers.

According to the participant, technical and vocational education and training programmes are offered in technical colleges, polytechnics, colleges of education (Technical), universities and other related institutions. They revealed that entry requirement into technical college is Junior Secondary Certificate and an aptitude test for students who want to do engineering while universities and other tertiary institutions have their entry requirements based on national examinations in the country.

Appendix 8 presents excerpts of interview transcripts of participants from Nigeria.

8.8   Gaps and silences

A national policy is expected to include relevant policy areas as recommended by UNESCO and ILO conventions and recommendations (Aggarwal & Gasskov, 2013). This study found that not all of the 18 categories that emerged from the analysis of the policies, and which

were used as comparative categories, were addressed by all of the policies analysed in the study. Some categories were addressed by all the three policies, some were addressed by two policies and one category was addressed by only one policy. The policy from South Africa addressed all the 18 categories that emerged from the analysis. Ghana's TVET policy is silent on two categories while Nigeria's TVET policy is silent on eight categories. All the components of the conceptual framework, which emerged as policy areas and as comparative categories for the study, were addressed in the policies of South Africa and Ghana, while 2 were not addressed in Nigeria's TVET policy.

8.9 Relevance, value and contributions of this research to knowledge

This research will hopefully be useful for improving and developing responsive and internationally recognised TVET policies and systems. It should be of particular value to policy makers in various African countries and beyond, and also as a source of information for researchers. The study contributes to an understanding of what makes TVET policy effective and responsive. The findings of the study reveal the nature of TVET policies of other countries, which could be used to inform policy developments, improvements and transformations in TVET systems. Lauglo (2006) asserts that experiences of practices in other countries could be used to improve policies in other countries. Internationally recognised TVET should be based on internationally recognised TVET policies. The development of a responsive and internationally recognised TVET policy should be based on experiences of practices in other countries, as several education and training policies have similar visions, background and histories (Raffe, et al., 1999).

This study will hopefully be of value to policy makers in that it reveals weaknesses and highlights positive aspects of TVET policies that require improvement to meet international standards (Vos & Brits, 1990; Aggarwal & Gasskov, 2013; Kubow & Fossum, 2007). The study also reveals gaps and deficiencies in policies which signal need for improvement (Vos & Brits, 1990, Hantrais, 1995). It offers particular insight for informing policy improvement and development in an African context, enabling TVET policy makers in the countries covered by the study to learn from one another's policies.

8.10   Implications and insights for TVET policy (Policy learning)

This study has major implications and revealed insights into TVET policies which could be used for TVET policy renewal and reformation in other African countries, particularly in

countries covered by the study. These insights could be used by individual countries to strengthen their existing TVET policy and practice.

8.10.1 Implications and insights for TVET policy (Policy learning) in South Africa

In view of the fact that TVET policy implementation in South Africa is poor due to reasons ranging from insufficient political will and funding shortages to inadequate training and shortage of suitably qualified staff to drive the system, the study has major implications for the improvement and development of TVET in the interests of social inclusion, economic and national development and global economic competitiveness.

Government policies and governance contributed to the poor implementation of technical and vocational education and training as Akoojee, Gewer and McGrath (2005, p. 116) noted that ―it is especially serious that policies and programmes of skills provision for enterprise development remain so weak and that coherence is particularly bad". They also indicated that the education and training needs of small and micro enterprises continue to be neglected in practice. Similarly, Education White Paper 4 (RSA, 1998a) pointed out that there is a dearth of managerial skills and capacity. Lack of strong and responsive TVET policy and adequate qualified personnel have implications on the quality of TVET provision and delivery as well trained, qualified and competent personnel are required to move the sector forward.

Various skills development policies and strategies exist in South Africa with different implementation sites. This could be problematic for users of TVET policy as it is capable of creating coherence and articulation challenges.

The findings indicated that South Africa has thick and comprehensive TVET policy, as all the categories representative of TVET policy areas that emerged were reflected in the policy. However, policies on paper and policy implementation are two different things. McGrath and Akoojee (2009) contend that public TVET colleges were failing to deliver because of strategy and implementation problems encountered at state level. In order for the TVET system to effectively deliver skills for economic and national development, it must overcome challenges such as stigma, inadequate funding, control, regulation, inadequate qualified staff, poor student access and provision of unresponsive programmes.

In terms of South Africa's TVET policy, TVET colleges should be governed by college councils and coordinated centrally and nationally. However, centralised TVET systems tend to be characterised by rigid curricula which are unable to respond to the skills and training

needs of the labour force (Bolina, 1996). Furthermore, bringing all higher education institutions, TVET institutions and adult education institutions under one department would create quality, quantity and diversity challenges for TVET at institutional level (UNESCO, 2014). Nonetheless, centrally and nationally coordinated TVET systems have important implications for addressing injustices, promoting social inclusion and maintaining quality and standards. In addition, they promote access and equity (Bolina, 1996). While TVET policy may be centrally coordinated by government, participation of major stakeholders in governance is also essential for greater efficiency and effectiveness (UNESCO, 2010).

The policy indicated that establishment of a national qualifications framework was the first step in the transformation of TVET in South Africa. Although national qualifications frameworks have important implications for the development and provision of high-quality and accessible TVET systems, and with the potential to bring greater coherence and improved articulation in all education and training systems (McGrath et al., 2006; Allais, 2003; UNESCO, 2013), the progress recorded has been minimal due to bureaucratic bottlenecks (African Union, 2007). South Africa's NQF is an element in the country's transition to democracy and a symbol of a single education and training system (Allais, 2003). It facilitates access to education and training, enhances quality, promotes justice and accelerates the redress of past injustices in education, training and employment, and contributes to the development of each individual learner and the broader social and economic development of the country (RSA, 1995; UNESCO, 2014).

The findings indicated that TVET programmes in South Africa offered at NQF levels 2–4 should be quality-assured by Umalusi (Council for Quality Assurance in General and Further Education and Training). Quality assurance has major implications for the quality of technical and vocational education and training. In addition to ensuring quality, quality assurance promotes consistency, accountability and national and international recognition of programmes and qualifications (Maniku, 2008). A quality assurance system ensures that programmes offered are relevant and responsive to the needs of the industry (Bateman et al., 2012), that TVET institutions have the capacity to deliver (UNESCO, 2014) and conform to approved standards (Kis, 2005), and it promotes continuous improvement in TVET system (Masson, Baati & Seyfried, 2010).

All three national policies suggest that ICT should be an integral part of TVET curriculum in the countries covered by the study. However, Mikre (2011) cautions that over-reliance on

ICT would limit student's critical thinking and analytical skills. In addition, ICT is capital intensive and therefore requires adequate and sustainable funding. Nevertheless, ICT skills are essential for improving national development and competitiveness in an international context (Akoojee & Arends, 2009). ICT could facilitate access to education and enhance the quality of teaching and education (Sarkar, 2012). Furthermore, the labour market is looking not just for skilled workers, but for people who are also ICT literate for higher efficiency, productivity and competitiveness (Harun, 2008). Integration of information and communication technology (ICT) in technical and vocational education and training policy is an insight also revealed by the study, which policy developers could consider for the purpose of policy renewal and reformation.

Technical and vocational education and training have been identified as a system with the capacity to respond to both intermediate and higher-level skills requirements (RSA, 2007a). In view of this, TVET graduates with NC(V) 4 and other relevant qualifications should not be discriminated, but rather, be allowed entry into universities and other related higher institutions for higher level skills acquisition and development as is the case in United Kingdom (Misko, 2006), Nigeria (FRN, 2004) and Ghana (COTVET, 2012). Delivery of TVET in post-secondary institutions would ensure continuity and progression and promote articulation between TVET institutions and higher education. Furthermore, it would improve access to higher education and provide an internationally competitive TVET system. Access to higher education would promote a more equitable society and also ensure a more competitive global economy (Nkomo, Akoojee & Motlhanke, 2007).

Delivery and provision of TVET in post-secondary institutions would improve the quality of training and enhance the image and status of the TVET system (Haas, 2002), producing graduates with heightened technical and cognitive skills. The TVET system would no longer be seen as a dead end, but rather as a system with the potential and capacity to provide knowledge, skills and attitude that would lead to attainment of higher-level qualifications on the national qualifications framework. Rojewski (2002) indicates that occupational education and training can be effectively delivered at post-secondary levels.

The findings indicated that TVET programmes should ensure both vertical and horizontal articulation. UNESCO (2013) reports, however, that articulation between TVET institutions and higher education is possible but rare in South Africa. Similarly, Akoojee, Gewer and McGrath (2005) acknowledged the challenge of articulation between TVET

qualifications/certificates and the rest of the education system and noted that it has particular implications for progression from college to higher education. Horizontal articulation enables movement from one programme to the other on the same level while vertical articulation enables progression from lower level to higher level. Articulation involves credit transfer between programmes either within the same institution or to another institution (Harun, 2008), thereby promoting access and progression in the TVET system. In providing greater opportunity to access higher education it adds value for TVET graduates and it also eliminates the negative perception that TVET leads to a dead end (Harun, 2008). To avoid dead ends for learners, all post-school institutions should work together and enable articulation between them (RSA, 2013b).

UNESCO (2001) TVET policy guidelines recommend that TVET policy should facilitate both horizontal and vertical articulation within the system and between school and the world of work, thereby contributing to the elimination of all forms of discrimination and prejudice, including discrimination and prejudice against qualifications for entry into higher education. Insights for TVET policy reformation and learning in this regard include the elimination of discrimination and prejudice against TVET qualifications for admissions into universities and other related higher institutions as UNESCO standard provides that TVET policies should allow access to other aspects and areas of education at all levels.

Other insights provided by the study for TVET policy reformation include the need for the provision of technical and vocational education and training (TVET) on national or provincial/local basis, so as to respond positively to the social, economic and educational requirements and to the needs of different groups of the population without discrimination.

Insight into the content of TVET programmes was also revealed by the study. The findings indicated that TVET curriculum should comprise theory, practice and general education. However, public TVET curricula are being criticised for being outdated in terms of theory and industry responsiveness (McGrath et al., 2006). Contemporary curricula should, in addition to practical and basic skills, emphasise understanding and higher-level cognitive skills (Johnson, 1992) and provide the necessary skills, knowledge and values for students to be able to adapt to changes (Majumdar, 2007). TVET curricula should also be flexible and reflect the needs of immediate communities (Black, 1997). Integration of theory and practice has important implications for the quality of TVET graduates and programmes. Theory would enhance understanding of skills development processes and help to produce TVET

graduates with adequate cognitive and technical skills, improving students' problem-solving skills and preparing them for higher education (Misko, 2006). This insight would be used by policy makers for TVET curriculum reform.

The findings indicated that the TVET sector is confronted by various challenges and constraints which have implications for the quality of graduates, programmes and the TVET system as a whole. Poor public perception was one of these challenges, and others included low cognitive and technical skills of TVET graduates. Negative perception of TVET would have social implications while low cognitive and technical skills of TVET graduates would have quality implications. Poor perception of TVET would contribute to low societal recognition of the sector and lack of respect (Bose, 2008) and would attract stigma (Shah et al., 2011). Negative public perception had also contributed to the low social demand for TVET (Eilor, 2008). According to Akhuemonkhan, Raimi and Dada (2014), the implications of public negative perception of TVET include low prestige and inadequate allocation of human and material resources. Low cognitive and technical skills of graduates would mean poor performance by the graduates. Provision of quality and responsive TVET and placement of TVET graduates in decent and well-paid jobs would improve the status of the sector (McGrath et al., 2006), whereas poor quality programmes would result in inadequate preparation for higher education (Kraak & Hall, 1999) and skills provision that would not meet industry needs.

The national plan for further education and training colleges (RSA, 2008) highlighted the need for funding to support the principles of access, redress and equity. Although the policy indicates that State should subsidise 80% of programme costs, with college fees covering 20%, Makole (2010) argues that TVET in South Africa is seriously underfunded, and Akoojee and McGrath (2008) stress that attention must be given to governance and funding if there is to be effective delivery of quality training. In order to respond to the needs of the socially excluded and facilitate access to TVET, government should continue to subsidise programme costs in public institutions (Akoojee, 2008b). Adequate funding is crucial to support relevant and adequate teaching and learning facilities necessary for quality TVET provision, to improve access and promote equity (RSA, 1998b), and to realise the TVET transformation agenda (McGrath et al., 2006). Contributions from the private sector and from individuals, communities and other non-governmental organisations would supplement government's efforts in funding the sector (UNESCO, 2014). The student financial aid

scheme should be strengthened and expanded to support academically deserving students from disadvantaged groups (UNESCO, 2014).

The national plan (RSA, 2008) indicated that TVET institutions should be responsible for establishing partnerships with industry and the community within their domain. Partnerships would enable TVET institutions to be in touch with the labour market (Akoojee & McGrath, 2008) and know their skills requirements. Through partnership, labour market intelligence would be made available to institutions and government (Misko, 2006).

The general implications and insights provided by this study for all three countries investigated can be summarised as follows:

Firstly, the study exposes policy developers in all the countries covered by the study to the technical and vocational education and training (TVET) policies and experiences of other African countries and TVET policy areas recommended by the ILO (Aggarwal & Gasskov, 2013; ILO, 2005; ILO, 2010).

Secondly, the study has important implications for improving, developing and strengthening international understanding among different nations. Identifying an effective and responsive TVET system and policy through comparative study and adopting it to develop and improve a similar system and policy in another country would improve international relationship and cooperation among different countries (Chaube & Chaube, 1993; Kubow & Fossum, 2007; Sodhi, 1993).

Thirdly, delivery of internationally recognised TVET would have important implications in improving the image and status of TVET sectors in all the countries covered by the study. Efforts should be made at both national and international levels to improve and raise the image and status of TVET sectors by giving the sector a unique identity, standardising TVET policies and practices, delivering responsive and qualitative TVET programmes and sensitising society on the significance and role of TVET.

Fourthly, there is global recognition that TVET has the capacity and potential to provide knowledge, skills, competencies and attitude necessary for finding employment, poverty alleviation and national development, and for this reason TVET policies should be given higher national priority (UNESCO, 2010) in all countries covered in the study.

The study also provides insight on models of TVET provision which different countries could decide to adopt depending on their TVET philosophy, vision and policy. These models include Dual System TVET Model; Liberal Market TVET Model and State-Regulated Bureaucratic Model. In the Dual model of TVET provision, training takes place both in firms (industry and working place) and public training schools. The school and workplace share the responsibility of providing trainees with coordinated learning experiences and opportunities. The close cooperation between the school and the industry/company ensures that the trainees are fully equipped with employable skills, work knowledge and attitudes at the end of the training. Liberal Market TVET Model reflects the needs of the private market led by industries and organizations. Under the State-Regulated Bureaucratic Model, TVET is defined, provided and financed by the national education system. TVET is therefore an extension of the national education system under the state-regulated bureaucratic model.

Further insight provided by the study is the competency-based technical and vocational education and training provision and delivery. Competency- based TVET is an industry and demand driven education and training programme based on defined industry generated standards. The industry standards are the basis upon which the curriculum, assessment and learning materials are designed and developed.

The study has provided TVET policy options for the countries covered by the study to choose from. Individual countries could identify the practice that would best suit their particular needs according to their background, political structure and economic strength, thus providing a basis for developing a responsive and internationally recognised TVET policy.

8.10.2 *Implications and insights for TVET policy (Policy learning) in Nigeria*

Technical and vocational education and training policy document in Nigeria is generally poor as it is under-developed, fragmented and lacks detail. The TVET policy is embedded in the broader national policy on education, which lacks some fundamental TVET policy areas recommended by UNESCO and ILO such as TVET governance, monitoring and evaluation and TVET quality assurance system, among others. Absence of these basic policy areas in the policy document in addition to inadequate funding, facilities and shortage of qualified personnel lead to poor and weak implementation and subsequently contributes to the neglect of the TVET sector. In view of the above, the study has major implications for the improvement and development of responsive TVET policy for Nigeria.

The study found that certain of the categories that emerged from analysis of the three policies taken together – categories which represent TVET policy areas highlighted by UNESCO and the ILO – were not reflected in Nigeria's TVET policy. This could be attributed to the nature of the policy, which is embedded in the broader national policy. Although, a country's context can inform a choice of policy, Aggarwal and Gasskov (2013) opine that TVET national policies should reflect all policy areas recommended by international policy principles. Absence of internationally recommended policy areas in a policy could result in education and training that fails to meet international standards. The inability of Nigeria to excel in the area and provision of TVET requires policy retrospection and review (Akhuemonkhan, Raimi & Dada, 2014).

Insights for TVET policy reformation and learning in this regard include the need for the development of comprehensive TVET policy that would include all necessary policy areas highlighted by UNESCO and ILO (Aggarwal and Gasskov, 2013), which include governance, quality assurance, monitoring and evaluation, funding, visions/goals, information and communication technology (ICT) and articulation, among others.

A comprehensive TVET policy should also indicate any statutes that determine governing structures, governing bodies and implementation strategies. Standardising TVET policy at international level would also be a positive objective, with internationally recognised features being an important step towards improving the frequently negative social perceptions of the TVET sector.

Other insights for Nigeria from the experience of South African TVET policy and practice include the development of comprehensive TVET policy separate from other education policies, establishment of national skills development strategies and plans that would promote and facilitate skills development and provision like the Accelerated and Shared Growth Initiative in South Africa (AsgiSA), Sector Education Training Authorities (SETAs) and the National Skills Fund (NSF).

Insights for TVET policy renewal and reformation from South Africa's experience and practice for Nigeria also include the National Qualifications Framework system and the policy on professional qualifications for lecturers in technical and vocational education and training.

Technical and vocational education and training in Nigeria is grossly under-funded. Recognising the cost-intensive nature of TVET, Nigeria's TVET policy explicitly indicates the need for adequate funding of the sector. Okoye and Okwelle (2013) note, however, that despite the contribution made by the sector in promoting economic and technological advancement in Nigeria it still is not given the attention it deserves. Yusuff and Soyemi (2012) argue that TVET is grossly underfunded, and Nwachukwu (2014) notes likewise that inadequate funding is a barrier to the implementation of TVET programmes. The falling standard of TVET in Nigeria is attributed to inadequate funding of the sector (Akhuemonkhan, Raimi & Dada, 2014). Adequate funding of TVET would facilitate the provision of quality programmes by providing adequate teaching and learning facilities, which are also not adequate for effective TVET delivery.

The policy in Nigeria encourages partnership between industry and TVET institutions and suggests that industrial attachment should be centrally coordinated. Partnership and collaboration with industry have important implications for skills development and improvement. Partnership between TVET providers and all stakeholders should be established and strengthened, as effective skills development would be achieved through collective efforts of providers, employers and all social partners (ILO, 2011). Although, the industrial attachment scheme for students was intended to develop their practical skills and competence, the scheme does not adequately provide the required skills (Okoye & Okwelle, 2013).

Although the TVET policy is silent about quality assurance and monitoring and evaluation mechanisms for TVET programmes, a national vocational qualifications framework was developed in 2013 with the objective of ensuring quality in the system (NBTE, 2014). Lack of quality assurance mechanisms have been identified as a bottleneck to the realisation of TVET goals (Akhuemonkhan, Raimi & Dada, 2014).

TVET policies and practices that have been experimentally introduced in other countries with similar economic and socio-political structures should be studied to see if they can be adapted for local improvement of the TVET system. UNESCO (2008) notes that TVET practices that are based on research and which have been successfully tried out in other countries should be studied and emulated.

Efforts should be made at both national and international levels to improve and raise the image and status of TVET sectors by giving the sector a unique identity, standardising TVET

policies and practices, delivering responsive and qualitative TVET programmes and sensitising society on the significance and role of TVET.

With global recognition that TVET has the capacity and potential to provide knowledge, skills, competencies and attitude necessary for finding employment, poverty alleviation and national development, TVET policies should be given higher national priority in all countries covered in this study and beyond. TVET requires commitment of national governments and political will to enable it provide responsive skills and knowledge for the fast-changing labour market (UNESCO, 2008).

8.10.3 *Implications and insights for TVET policy (Policy learning) in Ghana*

Technical and vocational education and training policy document in Ghana is poor as it is under-developed, fragmented and poorly implemented. The reviewed TVET policy in Ghana is poorly implemented as most fundamental policy areas were not fully implemented. Aspects of the policy that were poorly implemented include monitoring and evaluation, quality assurance mechanisms and partnership with industry. Furthermore, providers of technical and vocational education and training (TVET) were not fully prepared for the newly introduced competency-based TVET delivery in the country in addition to inadequate funding, inadequate teaching and learning facilities and inadequate qualified TVET teachers. In light of the above, the study has major implications for the development, improvement and implementation of responsive TVET policy in Ghana.

Ghana's policy proposes a shift from traditional TVET delivery to competency-based TVET delivery. However, an evaluation of the competency-based training (CBT) delivery approach by Mulcahy and James (2000) indicated that this approach lacks theoretical underpinnings and is less effective in the provision of generic skills such as communication and contingency skills. According to Anane (2013), on the other hand, competency-based TVET curricula comprise theory/knowledge, skills, and attitude or value, and the African Union (2007) sees competency as the aggregate of knowledge, skills and attitude. A review of competency-based training by Smith (2010) suggests that it lacks flexibility and is basically controlled by the interest of the industry. Nonetheless, competency-based TVET delivery is capable of providing skills that would be responsive to the needs of the industry (Boahin & Hofman, 2013; Anane, 2013). Defining competency is the ability to carry out a task based on approved criteria, UNESCO (2008) indicates that competency-based education has been found to be

236

appropriate for the TVET system. This study will hopefully provide further insight for the development and provision of internationally recognised TVET policy.

Ghana, as one of the countries covered in this study, could also learn from the insights, experiences and practices of TVET policies of South Africa and Nigeria. Insights, experiences and practices that would promote and facilitate TVET policy renewal and reformation in Ghana from South African TVET policy and experiences include the establishment and implementation of national skills development strategies and plans that would promote and facilitate skills development and provision like the Accelerated and Shared Growth Initiative in South Africa (AsgiSA), Sector Education Training Authorities (SETAs) and the National Skills Fund (NSF).

Other insights provided by the study that could be used by policy developers for policy renewal and reformation in Ghana from South Africa's experiences and practices include the establishment and implementation of the National Qualifications Framework system and the policy on professional qualifications for lecturers in technical and vocational education and training.

In Ghana's TVET policy, pre-vocational and technical education is incorporated in the general academic curriculum at the basic level, while specialisation begins in various TVET institutions (which are an alternative to the more senior high schools) and extends to universities and other related tertiary institutions. As outlined by Oketch (2007), TVET in Ghana is offered in lower secondary schools and it continues to higher education. Provision of TVET at lower secondary exposes students to a range of options and develops their interest (Oketch, 2007).

An important policy lesson African countries could learn from South Africa pertains to its development and implementation of national qualifications framework (McGrath et al., 2005). Ghana's TVET policy features aspects of both quality assurance and a national qualifications framework, but they have yet to be fully implemented beyond the piloting stage in the country's TVET system and until the implementation is complete this is likely to have negative implications for the system, with the likelihood of poor accountability and uneven quality in the training delivered by different providers (Misko, 2006). In addition, without feedback on the performance of TVET providers it will be difficult to identify weaknesses and strengths of the providers, or of the system as a whole, for improvements and consolidations. Quality assurance mechanisms should be implemented to improve the quality

of TVET provisions and delivery and also to ensure compliance with standards by TVET providers (Baffour-Awuah & Thompson, 2012). A quality assurance system is necessary for ensuring quality and standards in the different mode of TVET delivery such as online tuition, part-time study and distance learning (Misko, 2006).

The findings indicated that TVET lecturers were not fully prepared for the CBT approach and that they have limited opportunity for continuing training and industrial placement. Baffour-Awuah and Thompson (2012) report however that steps have now been taken to familiarise TVET lecturers in Ghana with CBT. Linkages between TVET lecturers and industry would improve lecturers' performance through acquisition of practical skills, improved professional attitudes and understanding of industry values (UNESCO, 2012), and keep them abreast of technological developments and innovations (Bukit, 2012). Effective partnership between TVET lecturers and industry would improve the relevance of TVET curricula and delivery methods (UNESCO, 2012).

Low social esteem accorded to TVET has negative implications for the development and improvement of the sector in Ghana and has limited student enrolment in TVET programmes (Baffour-Awuah & Thompson, 2012).

Funding for technical and vocational education and training has always been grossly inadequate in Ghana (Baffour-Awuah & Thompson, 2012). Inadequate funding has implications on the quality of teaching, learning and the TVET graduates as adequate funding is required for the purchase of facilities that would facilitate teaching and promote student learning and understanding.

The findings indicated that in Ghana government alone cannot adequately finance TVET. This requires support from industry and other major TVET stakeholders in contributing towards the funding of the sector. However, Baffour-Awuah and Thompson (2012) note that industry is not presently ready to support the sector financially, even though it needs the skills and competences provided by the sector. Looking for sustainable sources of financing TVET is therefore a major concern in Ghana (Palmer, 2009) and, overall, providers of TVET in the country are poorly funded (Arthur-Mensah & Alagaraja, 2013). Government subvention for TVET in Ghana is currently inadequate and this affects the quality of TVET provision – Ghana being one of number of countries where inadequate funding for TVET prevents teaching and learning facilities from being upgraded or the latest technology from being procured (Elkins et al., 2011; Baffour-Awuah & Thompson, 2012;). Teaching and learning is

therefore not effective due to lack of relevant instructional facilities, and this affects the teaching and learning processes and the quality of programmes, graduates and the system as a whole. More effective sources of funding TVET should be explored such as establishment of skills development funds and contributions from stakeholders (Baffour-Awuah & Thompson, 2012). Other sources of funding TVET include non-governmental organisations, individuals, industry and communities (Bolina, 1996).

Adequate funding is therefore necessary for the provision of quality TVET programmes. Delivery of high-quality, responsive TVET programmes and production of high-quality TVET graduates requires adequate teaching and learning facilities, which also require adequate funding.

8.11   TVET policy implementation in South Africa, Ghana and Nigeria

Policy implementation is an on-going, non-linear process that requires consensus building, participation of major stakeholders, contingency planning, resource mobilisation and adaptation (Sutton, 1999). Policy implementation theory indicates that the success and effectiveness of TVET policy implementation vary from country to country depending on various factors and variables, which include the policy itself, resources, standards, communications, enforcement and dispositions of implementers (Meter & Horn, 1975). TVET policy implementation varies in all the countries covered by the study (South Africa, Ghana and Nigeria) and is attributed to different factors.

In South Africa, variables of the policy implementation model (Meter & Horn, 1975) that are problematic include resources and dispositions of policy implementers. According to the policy implementation model, the attitudes of the policy implementers affect the success or failure of the policy implementation process. Technical and vocational education and training is negatively perceived as a sector for the academically backward learners and also for the less privileged. This perception will affect the success of TVET policy implementation. Technical and vocational education and training in South Africa is not adequately funded and the sector lacks adequate qualified teachers. Qualified TVET teachers are necessary for the successful implementation of TVET policy and programmes.

In Ghana, TVET policy implementation is poor as variables of the policy implementation model (Meter & Horn, 1975) that have implementation problems include resources, enforcement, communications and dispositions of implementers. Council for technical and vocational education and training (COTVET) recently introduced the competency-based

technical and vocational education and training but the policy implementers (teachers) indicated that they were not trained and ready for the competency-based delivery approach. Similarly, resources for effective delivery of technical and vocational education and training in Ghana are grossly inadequate. TVET is underfunded and the sector lacks adequate qualified teachers. Mechanisms for securing TVET policy compliance were not effective. Disposition of TVET policy implementers also affects the success or failure of the policy implementation as the sector is negatively perceived by the policy implementers and the general public.

In Nigeria, TVET policy implementation is poor and this is attributed to factors explained below. Firstly, lack of comprehensive policy for technical and vocational education and training. Nigeria's TVET policy is embedded in the broader national policy on education, which lacks details such as policy background and other vital policy areas as indicated in Meter and Horn (1975) policy implementation model and process. Because Nigeria's TVET policy is integrated in the broader national policy on education, vital details were not adequately communicated to the implementers for better understanding and effective implementation. Secondly, lack of adequate resources (both human and material). Nigeria's technical and vocational education and training (TVET) system is grossly underfunded and teaching and learning facilities are inadequate for effective TVET delivery. The success of policy implementation depends to a large extent, on the availability of resources, both human and material (Meter and Horn, 1975). Thirdly, the policy implementation theory and model (Meter and Horn, 1975) indicates that appropriate mechanisms should be established to ensure policy compliance. However, Nigeria's TVET policy lacks functional and responsive mechanisms for enforcing and ensuring TVET policy compliance. Fourthly, the policy model informs that the success and effectiveness of policy implementation is greatly influenced by the disposition of the policy implementers. However, in Nigeria, the perception of technical and vocational education and training is poor as it is viewed as a system for the academically challenged students.

Factors responsible for poor policy implementation in different countries across the globe include change of political philosophy, poor governance and political injustice and lack of strong political will (Paudel, 2009; Sutton, 1999). Others are political uncertainty, limited resources (both human and material) and weak institutions (Paudel, 2009; Makinde, 2005). Limited resources lead to insufficient qualified teachers and limited teaching and learning facilities, which would subsequently lead to poor policy implementation. Poor policy would

also lead to poor implementation more especially when it does not consider the social, political and economic position of the country (Makinde, 2005). Laudable policies without economic and political support would have implementation challenges as lack of funds is a barrier to effective policy implementation (Makinde, 2005).

Successful TVET policy implementation should therefore take the following into account: Target beneficiaries should be considered at the formulation stage of policy development so as to consider the interest of all beneficiaries. Attention should be given to both the manpower and financial resources, which would be required for successful policy implementation (Makinde, 2005). Effective communication between target beneficiaries and implementors of the policies should exist. Monitoring and evaluation programmes as well as all other recommended TVET policy areas as indicated above should be included in TVET policy for effectiveness

8.12   Proposed model for TVET conceptual framework for an African context

Although Lynch (1996) has argued that there is no generally accepted conceptual framework, Miller (1996) makes the case for a conceptual framework that will indicate the guiding principles and philosophies for policy, programme and curriculum developments – on which basis there is a case to be made for an improved and more relevant TVET conceptual framework that would (following Rojewski, 2002) provide for modifications and adapt to external factors for effectiveness and responsiveness.

Based on the findings of this study, and in line with Rojewski's (2002) suggestions and the UNESCO (2001, 2010) and ILO (2005, 2008, 2010) conventions and recommendations for TVET policy areas, a TVET conceptual framework for an African context should consider the following core aspects: funding, curriculum, instruction and programme delivery options, student populations, programme monitoring and evaluation, student assessments, and articulation between TVET programmes and/or providers and higher education options. Further relevant aspects include a quality assurance system, a national qualifications framework, industry partnership, general philosophical underpinnings, public expectations for TVET, educational reform, ―new economy‖ implications, and student learning and motivation. Figure 8-1 below shows a proposed model for a TVET conceptual framework for an African context derived from the findings of this study and incorporating the above-mentioned criteria.
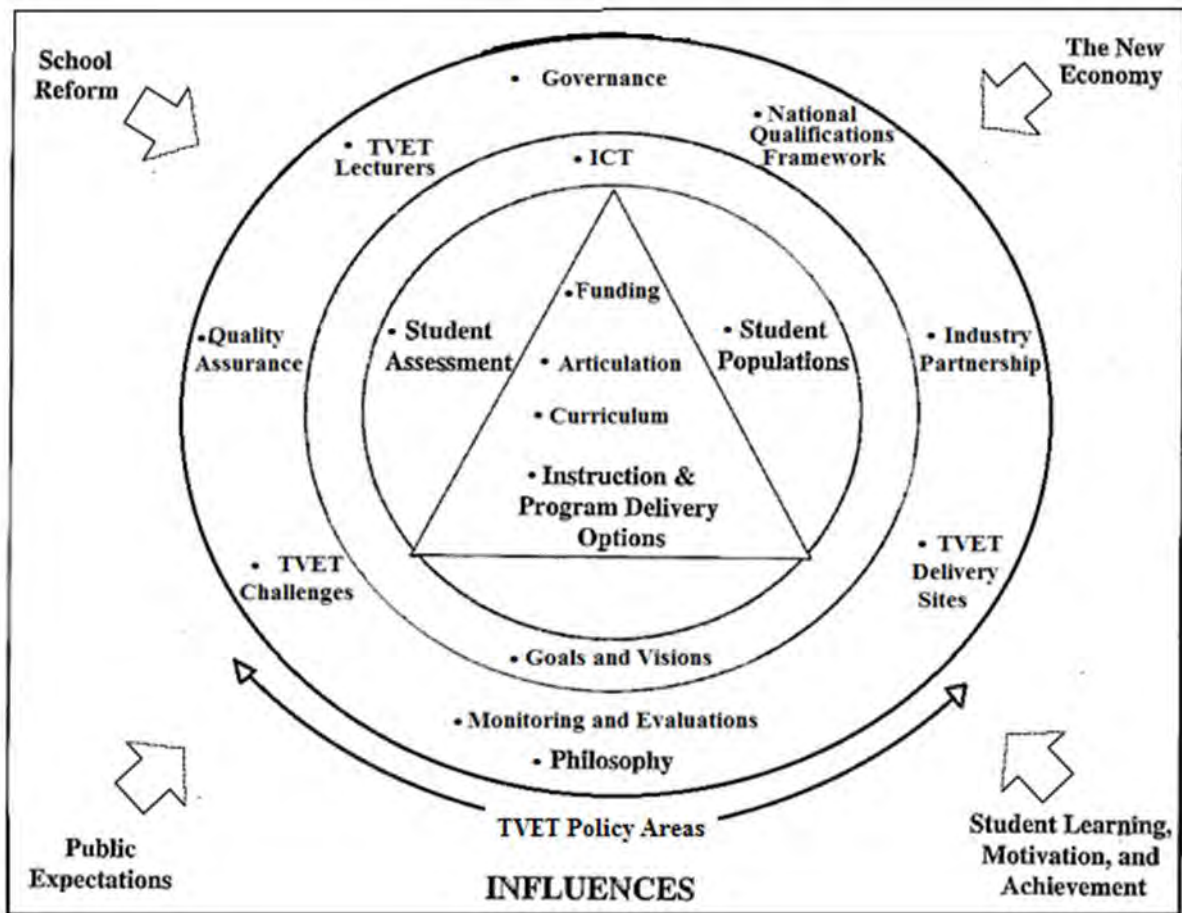
Figure 8-1: Proposed model for TVET conceptual framework

TVET policy needs to be informed by relevant philosophical principles that promote the integration and delivery of theory with practice. The theoretical dimension of the TVET curriculum would have a three-fold significance: it would heighten understanding of the skills development processes and improve the quality of TVET delivery (African Union, 2006), it would expose students to diverse career opportunities and prepare them to make their career choices, and it would develop their cognitive, intellectual and communicative skills and prepare them for higher education (Arthur-Mensah & Alagaraja, 2013).

The TVET curriculum needs to combine both what is being taught (content) (Rojewski, 2002) and how it is delivered (process) (Lewis, 1999). It needs to include theory, practice and provision for articulation between secondary and higher education (Rojewski, 2002), and should equip students with knowledge, skills and attitude that would be responsive to the needs of the labour market. ICT should also be a component of the proposed TVET conceptual framework in view of its capacity to improve the quality of teaching and learning processes (Leidner & Jarvenpaa, 1995), motivate students (Shamim et al., 2011), improve the

quality of education and training (Sarkar, 2012; Mikre, 2011) and facilitate administrative processes (Chinien, 2003).

TVET should form part of the national qualifications framework of a country that would serve as a transformation vehicle (Tuck, 2007; RSA, 2002), promote access to education and training (RSA, 2009), and help in achieving system coherence (McGrath, 2005; African Union, 2007) in the TVET system. A quality assurance system would ensure that quality and standards are maintained (Kis, 2005), and a monitoring and evaluation system would provide feedback on the successes and weaknesses of both TVET providers and the overall TVET system. Monitoring and evaluation would also ensure quality TVET provision and compliance with standards by TVET providers.

Goals and visions would provide targets for TVET providers and systems to pursue and achieve. The TVET conceptual framework also needs to take into account the governance structure of the system, and policy on development and funding for lecturers. Other aspects for consideration in the proposed framework include student assessment, instruction and programme delivery options, industry partnership and student population. Delivery of TVET should include theory that would provide a better understanding of skills development and also prepare students for higher education (Stone et al., 2008).

The proposed framework should consider and provide for both horizontal and vertical articulation in the TVET system. Articulation would facilitate credit transfer between programmes, improves social perceptions of TVET (Eilor, 2008), improve status of TVET graduates and facilitate transition to higher education (UNESCO, 2008).

The proposed conceptual framework provided above can be used as a basis for developing internationally recognized TVET policy as it includes various variables expected of a good policy. The proposed conceptual framework provides direction and sheds light on required areas of technical and vocational education and training policies which can be considered by policy makers for developing and improving effective TVET policies. The model provides a better understanding of TVET policy areas.

8.13   Implications of the findings for future research

Effective governance of TVET is crucial for the realisation of TVET goals and visions. Further comparative study on the mode of governance of TVET across selected African countries should be undertaken. This would provide insight into the practices of other

countries which would serve as a basis for ongoing system improvement for a given national context.

TVET policy is a transformation tool that guides the development and provision of knowledge, skills, competencies and attitude necessary for employment and poverty alleviation, and for economic, social, technological and national development. In this era of continuous economic, technological and industrial change, knowledge and skills tend to become outmoded (Perera, 2003). Change in skills requirements, political structures and national needs require corresponding change in policies for effectiveness. While this study essentially analysed and compared the TVET policies of three African countries to determine their similarities and differences, it did not explore the changes in skills requirements of these countries which would require policy attention – hence the need for further research in the area.

Adequate and sustainable funding of TVET is necessary for ongoing development and for maintaining quality and responsiveness. While this study concentrated on the analysis and comparison of TVET policies in the three selected countries, it did undertake extended exploration of sustainable sources of funding for the sector, and this, too, should be the subject of continuing investigation.

TVET curricula should provide student with necessary knowledge, skills, competencies and attitude required for employment and progression to higher education. This study confined itself to analysis and comparison of policy issues in the selected countries covered by the study; further research should focus more particularly on ways to improve the relevance and adequacy of TVET curricula in African countries.

In relation to quality assurance systems as a mechanism for improving the quality of TVET provision, the policies examined in this study indicated that poor quality programmes and qualifications and unresponsive skills were among the challenges facing the TVET sectors. Further comparative study is needed of TVET quality assurance systems across African countries for insight into the best processes for assuring quality in TVET at both institutional and systemic levels.

A concern in a number of countries, including those covered by this study, is negative perception of TVET. This requires investigation to determine the causes of these negative

perceptions with a view to intervention at policy levels to improve the image and status of the sector.

This study was restricted to the comparison of TVET in three African countries. There is need to extend this kind of comparative investigation of TVET policies to additional African countries. This would provide additional insight for ongoing improvement and reform in particular national policies to promote responsive and internationally recognised TVET.

More comparative studies need to be undertaken among African countries on the extent of implementation, effectiveness and relevance of national qualifications frameworks. This would provide an insight into best practice for the purposes of improving similar systems in other countries.

8.14 Concluding remark

This thesis analysed and compared the TVET policies of South Africa, Ghana and Nigeria to determine their similarities and differences. The study used UNESCO and ILO standards and recommendations to finally categorise the policy documents into 18 policy-thematic areas.

Technical and vocational education and training as a system has failed in all the countries covered by the study (South Africa, Ghana and Nigeria). The system has failed in providing the necessary responsive skills required for employment and self-reliance and for economic and national development. Quality of TVET graduates in all the countries covered by the study is poor as they are not responsive to the skills need of the economy and the industry. Challenges of the TVET sector include inadequate funding, inadequate teaching and learning facilities, inadequate qualified staff (academic and non-academic), poor governance and poor public perception of the sector.

Although, the TVET sector has poor record, all the policies recognise TVET as a system capable of alleviating poverty and developing individuals to become useful members of the society. Common national aspirations to provide skills for employment, poverty alleviation and job creation, social, economic and national development contributed to making TVET policies similar across the countries. Diverging factors in relation to economy, political structure, goals and history of each country could account for differences in the policies.

The findings indicated that areas of significant similarity include TVET governance, philosophy, vision and goals, conception of technical and vocational education and training, TVET curriculum, instruction and programme delivery approach, student assessment, ICT, funding, sites of TVET delivery and entry requirements. Additional areas are TVET challenges, TVET lecturers, and partnership with industry. Areas of significant difference include monitoring and evaluation, national qualifications frameworks, quality assurance systems and articulation.

This study was limited to analysis and comparison of TVET policies in the countries covered by the study. However, critical TVET policy areas that require further studies have been enumerated above, and include exploration of the skills needs of the countries covered by the study and investigation into the relevance and effectiveness of TVET curricula.

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Appendices

Appendix 1: Excerpts: *National Plan for Further Education and Training Colleges in South Africa*

4   No. 31712   GOVERNMENT GAZETTE, 12 DECEMBER 2008

education
Department of Education
REPUBLIC OF SOUTH AFRICA

NATIONAL PLAN FOR FURTHER EDUCATION AND TRAINING COLLEGES
IN
SOUTH AFRICA

TABLE OF CONTENTS

2

CHAPTER 1

INTRODUCTION TO VOCATIONAL EDUCATION IN SOUTH AFRICA

In 1995, South Africa began overhauling the education and training system inherited from the apartheid government. At that time the vocational and technical component of the system consisted of 152 technical colleges located in various education departments. The 152 technical colleges were governed, managed and funded in different ways. In addition, they served different population groups and their location was determined by apartheid planning. Although there was evidence of some quality provision, college programme offerings were of poor quality and viewed to be unresponsive to the needs of the economy. The challenge was therefore to transform the existing racially-divided technical colleges into a coherent system that would address the vocational education and training needs of the 21st Century.

The first step in the transformation of vocational education was the establishment in 1995 of a single National Qualifications Framework (NQF), which aimed to promote the integration of the education and training systems under the auspices of the South African Qualifications Authority (SAQA).

This step was followed by the appointment of the National Committee on Further Education (NCFE) in September 1996. The brief of the NCFE was to 'investigate the problems relating to FET and to make recommendations for its transformation.' The report of the NCFE was published in August 1997 as *A Framework for the Transformation of FET in South Africa*. This framework formed the basis for the publication, in quick succession, of a Green Paper for FET, a White Paper for FET and the Further Education and Training Act, 1998 (Act No 98 of 1998).

The FET Act of 1998 guided and governed the development of the Further Education and Training Colleges in the period 1998 to 2006. It 'set out a broad and long-term national framework for the transformation of curricula, learning and teaching, qualifications, funding, quality assurance and new institutional arrangements.' It was to the last of these imperatives, namely new institutional arrangements, that the Department of Education first turned its attention.

In 2000, a National Landscape Task Team was established to 'develop an overall national strategy for the re-organisation of the sector, building on proposals presented by the Provincial Departments of Education and based on agreed criteria and nationally agreed goals and objectives'. The recommendations of the Task Team were published in July 2001 as *A New Institutional Landscape for Public Further Education and Training Colleges*. This document recommended the establishment of 50 public FET colleges from the 152 technical colleges. The recommendations included how many sites should be established per province and which sites should make up each of these colleges. Further, the document recommended that these colleges would be declared public colleges with new names and established councils. This was the responsibility of the various provincial MECs.

6

CHAPTER 2

CHALLENGES AND VISION FOR FET COLLEGES

The background and historical developments outlined in Chapter 1 indicate that until 2005 the FET college sector was beset by a variety of challenges and constraints, from which it had to emerge if it was to play a meaningful role in serving the country's needs. These challenges included:

- Poor co-ordination of the FET College sector
- Poor public perception and lack of sector identity
- Poor student access and low student participation rates in vocational programmes
- Poor quality programmes and qualifications
- Low graduation and throughput rates arising out of high failure rates and low retention rates
- Low technical and cognitive skills of graduates
- Lack of relevance and responsiveness to the needs of the economy
- Dearth of managerial skills and capacity
- Low funding of the FET college sector
- Absence of an effective management information system to inform decision-making
- Lack of understanding of vocational education
- Shortage of suitably qualified lecturers to drive vocational education

While some of these challenges continue to afflict the college sector, Government has initiated a number of interventions to address some of the challenges. Interventions which must be acknowledged include the following:

a) The promulgation of the FET Colleges Act, 2006, to give the sector a unique identity and the flexibility it requires to respond to the skills development imperatives;

b) Development and introduction of the National Certificate (Vocational): A qualification at Levels 2, 3 and 4 of the NQF, which aims to solve the problem of poor quality programmes, lack of relevance to the needs of the economy, as well as low technical and cognitive skills of the FET college graduates;

c) The FET College Sector Recapitalisation Conditional Grant, which addressed low funding, particularly for infrastructural development to support the offering of modern vocational programmes; and

d) The introduction of the DoE FET college bursary scheme to address the problem of access and limited participation in FET college programmes due to poverty.

All these interventions took place without a coherent plan that set out the overall framework within which colleges had to undergo transformation. This plan aims at providing such a framework.

11

CHAPTER 3

VOCATIONAL EDUCATION AND SCOPE OF PROVISION

Before setting out the framework for the implementation of the national policy goals, it is necessary to anchor the framework within the particular vision and definition of vocational education and training (VET) adopted in South Africa.

3.1 Definition of vocational education and training

One of the challenges identified in the previous Chapter is the development of a common understanding of vocational education and training in the South African college system. In this Plan, vocational education and training is viewed as referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, the acquisition of practical skills, understanding and knowledge relating to occupations in various sectors of economic and social life. This view is consistent with the definition of VET provided by the International Labour Organisation (ILO) and the United Nations Educational, Scientific and Cultural Organisation (UNESCO). In short, the distinctive features of vocational education and training (VET) are:

- General education, particularly at the level of initial vocational education;
- A means of preparing for occupational fields and a basis for effective participation in the world of work;
- A foundation for further learning and a preparation for responsible citizenship;
- An instrument for promoting environmentally-sound sustainable development;
- A means of increasing employment opportunities for the graduates and poverty alleviation.

The view expressed above is also consistent with the *Dakar Framework for Action: EFA Goal 3*, which states that VET is a means of ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programmes.

This conceptualization of VET is adopted for this Plan because it is clear from international[1] experience that employers are not looking for individuals who have narrow occupational skills, but people, who are able to communicate, solve problems, calculate and effectively participate in teamwork. It is increasingly understood that the key role of vocational education institutions is to support long-term employability and skills development rather than short-term training for a specific occupation or trade. This speaks to the need for initial vocational education to focus on general vocational programmes which support the development of vocational skills with a breadth of knowledge and a strong general education foundation. Linked to this is the role of vocational education and training institutions in supporting knowledge development within occupational programmes, that is, the theoretical learning components of the learnership and apprentice programmes.

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[1] Cf. Skills Development in India: The Vocational Education and Training System

14

CHAPTER 4

CREATING A NATIONAL CO-ORDINATED FET COLLEGE SYSTEM WITH A UNIQUE IDENTITY

In White Paper 4 the Ministry of Education envisaged the establishment of a national co-ordinated further education and training system which promotes co-operative governance and provides for programme-based vocational and occupational training. The creation of a national co-ordinated FET college system aims at eliminating racial divisions created by apartheid's social engineering, as well as integrating the merged colleges into single institutional cultures. National co-ordination also aims at increasing effectiveness and efficiency of the system.

4.1 Context

The merger process of 2001 created new multi-campus colleges with the intention of reducing duplication and improving the quality, range and responsiveness of provision. In 1998 the majority of technical colleges had fewer than 500 students. In 2006 less than 4% had fewer than 1000 students.

In 2005, the FET college sector had a fixed asset value in excess of R4.3bn. It was, however, clear that substantial investment was needed to rehabilitate buildings and sites. It further became apparent that the proliferation of sites had not been managed in a way that ensures the full and effective utilization of infrastructure and available resources.

On a more positive note, the spatial spread of the colleges across the rural and urban environments is relatively good. FET colleges have a presence in all but one of the Presidential Rural Development nodes and the urban renewal areas.

It is clear that the uncoordinated expansion of the sector cannot continue. Changes to the landscape must be steered so as to ensure the maximum impact of public investment on the skills development needs of all the country's regions. At the heart of any attempt to give effect to the socio-political and redress aspirations of the emerging democratic South Africa, must be the consolidation and development of an extensive national coordinated FET system for intermediate to high level skills delivery. A public funded diversified FET college system for skills delivery to out-of school-youth and adults has been created for this purpose. Students at these colleges will access high quality vocational programmes, occupational programmes, skills programmes, enterprise development programmes, entrepreneurship and job creation programmes linked to spatial development initiatives.

Given the low funding baseline of 3% of provincial education budget for FET colleges versus the potential skills needs of 30 million economically active people in SA, priorities must be set for student access into the FET colleges. The largest and growing pool of potential students is the unemployed, out-of-school youth, who are 17 to 24 years of age, and who exit the school system with less than a NQF Level 4 qualification.

16

284

Appendix 2: Excerpts: *TVET Policy Review Draft Final Report* **(Ghana)**

TVET

POLICY REVIEW

DRAFT FINAL REPORT

JANUARY 2012

0

REVIEW OF THE 2004 TVET POLICY FOR GHANA

TABLE OF CONTENTS

2

287

EXECUTIVE SUMMARY

THE EDUCATION SYSTEM AND TVET CHALLENGES

According to the 2010 Population Census, the country's population was estimated at 23.0 million with a growth of slightly less than 2.5% per annum. Ghana is confronted with many economic, social and demographic challenges and the country's long-term objectives to address these issues are indicated in the Ghana Poverty Reduction Strategy (GPRS I, 2003-2005) and the Growth and Poverty Reduction Strategy (GPRS II, 2006-2009).

The combined effects of the economic development strategies and a projected population growth will call for major reforms of the education system - not least the Technical and Vocational Education and Training (TVET) system as it is currently fragmented, offers limited access, and is poorly funded.

The review indicated that, COTVET is still facing some implementation challenges in achieving its mandate. They include COTVET being situated under MOE, the ability to oversee tertiary level of TVET recognising that these institutions have their own Acts setting them out. Other challenges include, the development of the NTVETQF, the development of occupational standards for trades, the roll-out of piloted CBT, and the existence of Acts, Legislative Instruments and Enactments of MDAs operating various aspects of pre-tertiary TVET thus affecting the envisaged unified system of a national character operated under COTVET's standards, regulations and supervision.

The problem of poor quality and relevance of education including TVET needs immediate attention. At the macro level, the low quality of education and skills hampers Ghana's competitiveness and therefore industry experiences shortage of skilled workers according to a survey conducted by the Ghana Employers Association (2006).

Gradual deregulation of the TVET institutions and greater collaboration with local stakeholders would enable TVET providers develop and deliver programmes targeting the diversity of needs in the local context.

Improved links with local employers are likely to have a positive impact on industry placements, and could lead to new services regarding workforce development.

4.0 FINANCING OF TVET

This chapter provides a review of funding sources for TVET and how the funding models can help to improve sustainability. The chapter concludes with an assessment of the current funding scheme with particular emphasis on sustainability.

4.1 BACKGROUND TO FINANCING

The TVET policy emphasises the fact that quality TVET requires considerable amounts of expenditure on equipment, training facilities, personnel emoluments and teaching and learning materials. The Government alone cannot adequately finance TVET and therefore sustainable sources of funding are required to expand access and at the same time meet international quality standards. Industry, non-governmental organizations and individual beneficiaries will be expected to contribute more to TVET delivery. TVET is funded by multiple sources including public expenditure (GOG), trainees' contribution through fees and donor funds.

4.2 EXISTING POLICIES FOR FUNDING SUSTAINABILITY

The 2004 TVET Policy recommended various sources for ensuring sustainable funding to support TVET delivery. The key ones include:

1. Increased direct Government of Ghana budgetary allocations including a percentage allocation from the GETFund and District Assemblies.
2. Establishment of a Skills Development Fund (SDF) with member industries and businesses contributing 1% of their total payroll. Labour unions and trade associations shall contribute 0.5% of their total membership contributions.
3. Establishment of a Ghana Patrons' TVET Fund to mobilize foreign revenue to support skill training.
4. Public and private institutions will be encouraged to mobilize resources especially from the private sector and external sources
5. User fees charged in public institutions will be increased steadily towards the recovery of recurrent costs.

5.0 ACCESS TO AND PARTICIPATION IN TVET

This chapter provides a review of policies to expand access and participation in formal TVET, for the youth and adults and highlights the role of informal and non-formal learning in expanding access, as well as the recognition of training that takes place in these sectors.

5.1 FOCUS AREA ON ACCESS

Even though provision has been made for TVET to go up to tertiary levels according to the National TVET Qualifications Framework (NTVETQF), for the purposes of current COTVET operations in terms of access and participation, it is more relevant to focus mainly on the pre-tertiary levels for three main reasons.

First, the 2004 TVET Policy dealt mainly with TVET at the pre-tertiary level. Secondly, the' tertiary level TVET programmes being offered are not in line with the CBT approach Qualifications to be awarded on the NTVETQF are to follow the CBT based approach. Thirdly, the programmes offered at the tertiary levels are currently subject to the approval of the Councils and Academic Boards of the institutions and the National Accreditation Board (NAB).

5.2 POLICIES ON ACCESS

Entry into public technical institutes is based normally on students* performance at the Basic Education Certificate Examination (BECE) after JHS. This is mainly the case with the Ghana Education Service institutions where the selection to Senior High School and Technical Institutes is done in an integrated manner through the Computerised School Selection Programme System (CSSPS). However, in some of the public schools under other MDAs, admission requirements are determined by those organisations and not necessarily by the CSSPS.

In the informal sector, the decision to admit is not based on a national policy but solely at the discretion of the master craftsperson. However with the introduction of

6.5 QUALITY ASSURANCE APPROACHES

COTVET is yet to actively engage in full implementation of important aspects of quality management beyond the CBT piloting programmes even though quality is recognized in COTVET's mandate. The quality approach to TVET is exemplified in COTVET's work in establishing participative, partnership-based sector groups such as ITAC, TQAC, NTVETQC and NAC to develop guidelines for implementation based on the CBT principles.

COTVET has set out its Draft Strategic Plan (2011-2015,) the principles include:

1. Comprehensiveness: Implying that COTVET should be all-embracing, covering various trades, occupations and professions.

2. Demand-driven approach to skills development: COTVET will only support education and training interventions that demonstrate they are demand-driven.

3. Participation and partnership: COTVET-supported programmes are built to some' extent on the active partnership and participation of key stakeholders, involving employers (public, private and NGOs), training services providers and the recipients of education and training.

4. A competence-based approach and unitised system to skills development: To permit a flexible response to demands, COTVET-supported programmes take the form of competency-based unitised systems with multiple entry and exit points, potentially turning the acquisition of technical, vocational, managerial and business skills into lifelong learning processes.

5. Transparency and accountability: The mechanism that COTVET intend implementing is to decide on funding between different providers linked to specific performance criteria developed with the key stakeholders

6. Equity and cost-effectiveness: To develop a mechanism that will encourage demand-driven and equitable education and training to be provided through public and private training institutions and financed through contributions by government, donors, students and employers.

COTVET was established among others, to ensure that TVET practices and qualifications meet national and international criteria. COTVET therefore has to ensure that TVET offered by different providers meet the required standards.

To achieve this, COTVET has identified five aspects of quality assurance to be regulated in Ghana; they are:

1. Registration of occupational standards and qualifications (the different qualifications of different TVET providers should be of similar quality). This is required to ensure that standards which are set are relevant, up to date, guarantee integration and are acceptable to all users.

2. Registration of TVET Providers (establishment)

   Before a TVET Provider can offer any programme, the provider should be registered to make sure the provider meets the required criteria in terms of physical facilities, competence of the educational providers, et cetera. This is required for the basic protection of the users of education and training.

3. Accreditation of Providers (Facilitators, Assessors, and Verifiers).

   This needs to be done to ensure that those who provide the educational and training opportunities are indeed able to offer that service. Do they have the capacity to deliver, assess and verify to the specified unit standards. Are the educators and trainers qualified to facilitate a particular programme to the standards required? The TVET learners must be protected from "fly- by- night" TVET providers.

4. Ongoing Verification of assessment

   This is required to ensure that there is consistency of assessment to the required standard. Assessment is not a once-off affair, but needs to be done at regular intervals so that the quality of educational provision remains acceptable. We can therefore say that control of assessment practices must be on-going.

5. Systemic Verification

   Systemic verification means that the effective performance of the overall education and training system must be determined. How well does the TVET Providers mange quality and relevance? Why is there such a difference in the quality of educational provision among different TVET Providers? System verification will help maintain quality provision of TVET for all learners.

59

293

Appendix 3: Excerpts: *National Policy on Education* **(Nigeria) (incorporating TVET policy)**

FEDERAL REPUBLIC OF NIGERIA

NATIONAL POLICY ON EDUCATION

4TH EDITION (2004)

Contents

SECTION 7

SCIENCE, TECHNICAL AND VOCATIONAL EDUCATION

39. **Science Education**

(a) Science education shall emphases the teaching and learning of science process and principles. This will lead to fundamental and applied research in the sciences at all levels of education.

(b) **The goals of science education shall** be to:

(i) cultivate inquiring, knowing and rational mind for the conduct of a good life and democracy;

(ii) produce scientists Tor national development;

(iii) service studies in technology and the cause of technological development; and

(iv) provide knowledge and understanding of the complexity of the physical world, the forms and the conduct of life.

(c) Special provisions and incentives shall be made for the study of the sciences at each level of the national education system. For this purpose, the functions of all agencies involved in the promotion of the study of sciences shall be adequately supported by Government.

(d) Government shall popularize the study of the sciences and the production of adequate number of scientists to inspire and support national development.

40. Technical and Vocational Education is used 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. Technical and Vocational Education is further understood to be:

(a)   an integral part of general education;

(b)   a means of preparing for occupational fields and for effective participation in the world of work;

(c)   an aspect of lifelong learning and a preparation for responsible citizenship;

(d)   an instrument for promoting environmentally sound sustainable development;

(e)   a method of alleviating poverty.

41.   **Pre-Technical and Vocational Education**

The preparatory aspect of pre-vocational training offered to students at the junior secondary level is for the purposes of:-

(a)   introduction into world of technology and appreciation of technology towards interest arousal and choice of a vocation at the end of Junior Secondary School and professionalism later in life;

(b)   acquiring technical skills;

(c)   exposing students to career awareness by exploring usable options in the world of work; and

(d)   enabling youths to have an intelligent understanding of the increasing complexity of technology.

42.   **The goals of technical and vocational education shall be to:-**

(a)   provide trained manpower in the applied sciences, technology and business particularly at craft, advanced craft and technical levels;

(b)   provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development;

(c)   give training and impart the necessary skills to individual who shall be self-reliant economically.

43.   In pursuance of the above goals:-

(a)   The main features of the auricular activities for technical colleges shall be structured in foundation and trade modules.

(b)   The curriculum for each trade shall consist of four components :-
    (i)   General education
    (ii)   Theory and related courses
    (iii)   Workshop practice
    (iv)   Industrial training/production work
    (v)   Small business management and enterprenurial training.

(c)   For effective participation of students in practical work the teacher-students ratio shall be kept at 1:20.

(d)   Trainees completing technical college programmes shall have three options:-

    (i)   secure employment either at the end of the whole course or after completing one or more modules of employable skill;

    (ii)   set up their own business and become self-employed and be able to employ others;

    (iii)   pursue further education in advance

298

craft/technical programme and in post-secondary (tertiary) technical institutions such as Science and Technical Colleges, Polytechnics or Colleges of education (technical) and universities.

44. Minimum entry requirement into the technical college shall be the Junior School Certificate (JSC). Entry could also be based on evidence of aptitude shown in the technical courses and a reasonably good performance in mathematics and science. Students who have proved exceptionally able in the artisan training centres shall also be considered for admission.

45. Every state shall encourage at least one of its technical colleges to offer advance craft courses to prepare master craftsmen for supervisory positions in industry and in teaching.

46. The range of courses in the technical colleges shall be as wide as possible and include but not limited to:

    A. Mechanical Trades:
        (1) Agricultural Implements and Equipment Mechanics' work
        (2) Automobile Engineering Practice: Autobody Repair and Spray Painting
        (3) Automobile Engineering Practice: Auto Electrical Work
        (4) Automobile Engineering Practice: Autobody Mechanics" Work
        (5) Automobile Engineering Practice: Autobody Building
        (6) Auto Engineering Practice: Part-Merchandising
        (7) Air-conditioning and Refrigeration: Mechanics' Work
        (8) Mechanical Engineering Craft Practice
        (9) Welding and Fabrication Engineering Craft Practice

Appendix 4: Ethical Clearance Approval

UNIVERSITY OF
KWAZULU-NATAL ™

INYUVESI
YAKWAZULU-NATALI

11 March 2013

Mr Ezekiel Bangalu Arfo 212561884
School of Education
Edgewood Campus

Dear Mr Arfo

Protocol reference number: HSS/0109/013D
Project title: Technical and vocational education and training policies in selected African countries

EXPEDITED APPROVAL

I wish to inform you that your application has been granted Full Approval through an expedited review process.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. Please note: Research data should be securely stored in the school/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

....
Professor Steven Collings (Chair)

/pm

cc Supervisor: Dr SM Maistry
cc Academic Leader: Dr MN Davids
cc School Admin.: Miss Bongekile Bhengu

Professor S Collings (Chair)
Humanities & Social Sc Research Ethics Committee
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban, 4000, South Africa
Telephone: +27 (0)31 260 3587/8350 Facsimile: +27 (0)31 260 4609 Email: ximbap@ukzn.ac.za / snymanm@ukzn.ac.za

Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

INSPIRING GREATNESS

Appendix 5: Motivation for Change of Dissertation/Thesis Title

UNIVERSITY OF
KWAZULU-NATAL

UNIVERSITY OF KWAZULU NATAL

COLLEGE OF HUMANITIES

SCHOOL OF EDUCATION

Motivation for Change of Dissertation/ Thesis Title

NAME OF STUDENT: Ezekiel Bangalu Arfo

STUDENT NUMBER: 212561884

CAMPUS: Edgewood [✔]   Pietermaritzburg [ ]

DEGREE (e.g. MED(Educational Psychology) : PhD Education
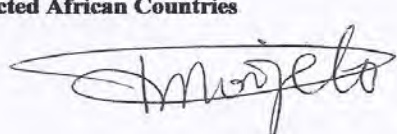
SCHOOL: Education

NAME OF SUPERVISOR: Professor SM Maistry

NAME OF CO-SUPERVISOR:

CURRENT TITLE: Technical and Vocational Education and Training Curriculum Policy in Selected

African Countries

NEW TITLE: A Comparative Analysis of Technical and Vocational Education and Training Policy

in Selected African Countries

Approved
14/08/2014

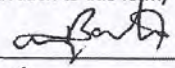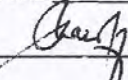MOTIVATION FOR CHANGE/ALTERATION OF DISSERTATION/THESIS TITLE:

The new title reflects the focus of the study
which is a comparative policy analysis across three
African countries

(If the motivation exceeds the space allowed, please attached the written motivation to this form)

DATE: 3/7/2014   STUDENT SIGNATURE: _____

DATE: 8/07/2014   SUPERVISOR: _____

DATE: _____   CO-SUPERVISOR: _____

Appendix 6:Excerpts of interview transcripts of participants from South Africa

Participant 1

Researcher

How does the society perceive technical and vocational education and training?

Participant

I think in the old days it was usually children who were expelled from school or who didn't want to finish school and wanted to go to technical colleges after they've obtained grade 9 like they still do, after grade 9 they can come to a technical college. They don't have to finish up to grade 12 to come to a technical college. People still have quite a negative view of what we do in a technical college. They still see it as for children who did not want to finish school and kids who couldn't cope at the school level academically of which I think it is very unfair to our students because since 2007 we have been doing vocational training. So the seven subjects are focused specifically training for a specific vocation like for a financial field or office administrative field or IT field or whatever. I think when we talk about society, not only society but also the business world, they don't know what we are doing and they don't know what qualifications our kids get, they don't know the content of our courses, so they think it is still like old days, they come to college to finish matric which was back then, it wasn't a proper matric that they got but now it is equivalent to matric at schools but the content of the courses is more vocational whereas at schools it is more general. So I think society have quite a negative idea of what we do here. People viewed technical trainee as somebody who cannot achieve academically

Researcher

What is your general perspective of technical and vocational education and training?

Participant

I think you know from being in South Africa that we have a huge shortage of technically trained people and I think the colleges are trying to rectify that so that we have again skilled people in various fields. People know that learners in FET colleges acquire skills they require for employment and also out there in the industries they also employ people who go to FET colleges because of the skills they have. For skills, Industries prefer people who go to FET colleges because they have skills. Even though the colleges have the capacity to train people

effectively, the society still looks down at people who are technically inclined by those who are academically inclined. It's a pity that we are viewed that way that we are not seen as a serious study opportunity for students.

Researcher

As an experienced person in the system, what is your view concerning TVET curriculum?

Participant

From my experience and knowledge, the FET curriculum prepares learners for skilled jobs in industry, companies or other private businesses that require their services, or even establish their business. FET curriculum also prepares learners for higher education so for those who want to further their education can also do that.

Participant 2

Researcher

Which institutions offer TVET programmes in South Africa?

Participant

We have FET colleges, universities and others, like universities of technology; they all offer technical and vocational programmes.

Researcher

What of their entry qualifications?

Participant

For other institutions I am not sure but for our college, learners come here after passing grade 9 but those with matric also come here and start from grade 10 again.

Researcher

What would you say about your students and students in other institutions?

Participant

Somebody who goes to the university will get more status as opposed to someone who leaves high school and come to FET College.

Researcher

What do you think is public's perception of FET colleges?

Participant

First of all a lot of people don't know about FET, they just know high school and that when you leave high school you go to university. Students who finish in the FET colleges are not looked upon as people who are very high and their employability is not very high because they are looked upon as secondary students who couldn't get into a university. People see it as of lower status because they don't know what we do here. But our students get skills for employment but some people don't know.

Researcher

How does the society consider programmes offered in FET colleges?

Participant

They don't know about our programmes here. You see, the programmes we offer are relevant because those who finish here always get employment in the industries around. Many People from the companies around come here to employ our graduates every year because they get the type of people with skills they want

Researcher

What is your view of learners who prefer to come to technical and vocational schools like this?

Participant

Well, some learners go to FET because they want to have skills for employment. FET colleges provide skills for employment and also for business. They go because they have interest in FET while others go to FET colleges because they could not get into a university, the points they scored were not high enough. We only get learners who are not making it.

Researcher

In your opinion, do you think technical and vocational education and training teachers are competent enough to teach all the TVET programmes here?

Participant

The thing that I have noticed so far is that whenever they do hire, they hire people who are not qualified because they say these people have skills and they are from an industry or whatever. I think if they hire, they are supposed to bear in mind that these people have to deliver in class because you are supposed to have teacher's qualification in order to know the students well and know who exactly to participate because whenever you are there you are not only a lecturer but you are also there as a parent, as a guardian not merely a facilitator. You must make sure that you put yourself in that position.

Researcher

Is your college adequately funded?

Participant

I don't think FET colleges are well funded. Over there, they always complain of lack of money to hire teachers and also to provide enough materials for teaching. They complain that there is no money to hire enough qualified teachers or even to sponsor some of us.

Researcher

Does your college have adequate teaching and learning facilities?

Participant

Here facilities for learning are not adequate more especially in the laboratories, even though we have some but are not adequate and are not the modern type.

Participant 3

Researcher

This is a technically-oriented institution. To the best of your knowledge, how does the society perceive technical and vocational education and training?

Participant

So many people do not know much about FET. In most cases they think of it as where you can do basic skills, like doing physical things with your hands only. They don't know that there is theory in it because what we teach here is not only practical, we also teach theory. We do both but the only thing that is in their minds is that it is for people who are slow learners, people who can't cope at the mainstream. You are supposed to be here if you've passed grade 9 but people think anyone can come here and yes, anyone can come because

there are other skills that are being provided but for our own college, we offer both practice and theory. When our students complete their training, they can get employment and also start their own business. It is something that can make our country a better country more especially for skills development, we can have skills and we can get employment. So generally people don't know what we are doing here. What we teach here is not only practical, we also teach theory but some people think we only teach practicals for people to go and work in companies or industries.

Researcher

Do your students get bursaries or grant?

Participant

Here in South Africa learners receive bursaries but some of them go away after collecting it.

Researcher

Do you have adequate teaching and learning facilities?

Participant

In our college we are provided with most of the things we need for teaching including computers for life orientation. If you go to the computer room now you will see learners using them. The college has provided computers for learners, and lecturers also use them. The computers help in our teaching and learners use it to learn….

Researcher

Are staff paid regularly in terms of salary?

Participant

Yea, we always get our pay; I think we have no problem there in terms of salary.

Researcher

What is your general perspective of the TVET sector?

Participant

FET is a sector that provides skills for employment and development. It provides both theory and practice but is unfortunate that people see FET as a place for learners who could not perform academically.

Participant 4

Researcher

How are technical and vocational education and training colleges governed in South Africa?

Participant

Initially we were employed by the college council but recently Technical and vocational education and training colleges have been moved to Department of Higher Education and Training (DHET). We were under DOE before but we are now under the department of higher education. All colleges have been moved to the department of higher education and training. It happened April this year. We are now under the department of higher education.

Researcher

 Are examinations centralized or each College sets and administer its own?

Participant

We set examinations here also but the final examination is centralized because it is set by Department of Education but is scrutinized by Umalusi. We don't even see the question papers.

Researcher

What is the entry qualification for the TVET colleges?

Participant

For NCV programme the entry qualification is a pass from grade 9 to 10 and those who failed matric. Then the NATED programme is for those who passed matric and did math or physical science but in practice, anybody who seeks admission here after grade 9 is just given admission regardless of their performance.

Appendix 7: Excerpts of interview transcripts of participants from Ghana.

Participant 5

Researcher

Based on your qualification and experience as policy facilitator, what can you say about public perceptions of technical and vocational education and training here in Ghana?

Participant

Yes, it seemed like it was not on the same level with the normal, regular academic programs that run through the grammar schools that we have, like from basic to secondary to tertiary. Even though, we know technical and vocational institutions are also classified as second cycle institutions. When people have to make choices, that is when you realised that most of them will prefer to go to the grammar schools or secondary schools where they focus more on academics than go into areas where their skills will be required. Looking at the whole situations, I have analysed it and it bothered down to the reward systems that our educational programs present. So you take it that people progress to secondary schools, to the universities; some will read medicine, law, at the end of the day the investment in education and the returns on it as compared to those who will take to technical and vocational education and progress further. You realise that those who took the formal academic path within professions like engineering, medicine and law tends to earn more than those who went through the technical schools and vocational schools. That has presented us with a situation we have analysed them. We have come to a point where I believe that it was basically due to the structures where you go to technical schools and the progression path was not very clear. So with the coming into being of COTVET, we have put in place the COTVET airline which has the national TVET qualification framework and allows for progression up to the level of B.Tech. Based on the framework that we have put together, which of course has the backing of government, it makes it quite attractive. We are now putting together the packages that will make it to enhance it further, but is basically one of the areas that if society is able to vie into it, is really going to be useful. Once we make it obvious that after technical school, your end is not like HND or B.tech, by then you can progress up to any level you want, then those who aspire to progress to any point could go ahead and do it. There is also this policy we are coming up with, the provision of poor learning. That allows artisans and skilled persons who do not have any qualifications but are very skilled and can work on engines and other things. We are using the competency based mode of assessment which is in direct link with the provision of it. Based on the evidence available indicating the competencies that you have,

we can use it to assess you and award you with an equivalent qualification to any level, which of course, will allow you to fit effectively into any industry. We believe that when we have done all these things, the TVET sector will be more attractive. Our little piloting we did with CBT, workplace experience learning is a program that is part of CBT program. Technical school students work in companies and industries and their workplace experience learning program allows them to be assessed so whatever scores they get is part of their total score. When we piloted it, we realized that before even most of the students who were on that program completed their programs, they have jobs; all of them, all those who went through the workplace experience learning in technical schools using the CBT. Companies like Accra brewery, Angugo employed all those who worked there. The TVET sector was not getting the right focus or all the support that they require. So yes, there is perception issue here. But before we got all these, we have done a study on TVET perception. We called it prejudice to prestige. It was a collaborative effort with university of Ghana and city and guild. And we came up with this document.

Researcher

To be specific, how is TVET governed here in Ghana, I mean its governance structure?

Participant

You see, TVET in Ghana is delivered by different ministries and agencies including the private sector under different conditions, administrations and standards. In order to bring coherence and unify the system, COTVET was established by the government to coordinate and oversee all aspects of technical and vocational education and training in the country including policy formulation for the sector. The sector is undergoing a reform. Reform in the system is intended to develop a system capable of producing skilled workforce that can compete at international level; a system that can provide skills for employment, poverty alleviation and economic development through competency-based education and training. This includes both public and private sectors. With all these developments, the Council has challenges to overcome. One of the regulatory challenges the Council is facing is that at the tertiary level, TVET is regulated and overseen by the various institutions based on the Acts that established them.

Participant 6

Researcher

As a head of TVET institution, are you and your teachers prepared for the competency-based training?

Participant

The competency-based training was only tried in few institutions and it has not been extended to majority of technical institutes and colleges because the staff, I mean teachers are not fully prepared for the implementation of the competency-based approach. Even the people on top are not fully ready. You see, this approach requires participation of the industries but they are still not ready.

Researcher

How does the society here perceive technical and vocational education and training?

Participant

You see, the perceptions that Ghanaians have about technical education is not different from the other world, it is negative. The assumption is that it is those who do not do well academically who are sent to technical schools. But I think that is counterproductive.

Researcher

Is there adequate funding for the technical and vocational education and training sector?

Participant

It is woefully inadequate in the sense that it used to be one percent of the budgetary allocation given to ministry of education, but upon persistent struggle, the government has now seen the need to make it one and a half percent.

Researcher

What are the problems facing the technical and vocational education and training sector here?

Participant

I think that generally is the rate of unemployment. You see, you trained the people and getting employment is also another thing. Because our economy does not expand fast enough to contain people with diverse skills and knowledge who are looking for employment. A good number of them got trained, only few of them are employed by other industries, some settle on their own. Not all skills acquired by the students are useful or needed by the companies.

Participant 7

Researcher

What types of institutions offer technical and vocational education and training programmes in Ghana?

Participant

Technical vocational education and training are taught in different types of institutions in Ghana and at different levels. These include technical colleges and different types of technical institutes. You see, and at the tertiary level, it is delivered in universities and polytechnics and also some private institutions. As for the entry qualification, it is normally the basic education certificate examination (BECE) for technical colleges and all public technical institutes.

Researcher

Is technical and vocational education and training adequately funded here?

Participant

Funding technical and vocational education in this country is a serious problem. No grant for improvement. They don't allocate grant for attending conferences and workshops; even when they do, it would be too meagre. We have no money to fix our machines when they get bad talk less of buying new ones. They are only managing to pay us our salaries.

Researcher

How is the TVET system governed in Ghana?

Participant

Technical and vocational education and training is controlled by the council for technical and vocational education and training. The council monitor everything we do in the colleges and the council is also under ministry of education.

Researcher

What do you think are challenges facing the TVET system?

Participant

Challenges are many but the major one is lack of adequate funding

Participant 8

Researcher

What is your perception of the TVET sector?

Participant

Vocational technical education is a system that provides skills for employment and economic development. However, the society labels it as a sector for school dropouts out of ignorance where less intelligent students are always advised to go.

Researcher

Do you have computers for students and staff use?

Participant

No computers for student's use. The computers that are here are kept in the principal's office. The computers are not many. We have computers for presentations here and some of us have their personal computers. Not everybody can use the computers that are in the principal's office. We hope they will supply us with enough in the future.

Researcher

How is student enrolment into TVET institutions in this country?

Participant

Students who complete basic education prefer to go to grammar schools. In most cases they don't want going to technical schools and if you see them coming, you see that their results or grades after basic education are bad or they failed to get admission into grammar school.

Appendix 8: Excerpts of interview transcripts of participants from Nigeria.

Participant 9

Researcher

You have been in the technical and vocational education and training sector for the past twenty years. From your experience, how is technical and vocational education and training perceived by the society?

Participant

In the late seventies, when one finished primary school, that is, standard elementary school from primary one to six or one to seven, then the moment you are selected to go and study in our former vocational and technical schools, especially the then craft school and technical colleges, people will look down upon you and think that you are not performing. Our elders and our seniors or leaders do not take vocational and technical education very serious. They always think it is a training for those who cannot perform and people dropped out from the traditional school system. Contrary to the vision and objectives of the sector, it is perceived by the public as programmes designed for students with academic difficulties. But these days that there is a lot of high level of unemployment, both the government and even the youth, they are now turning back to vocational and technical training so that they will get at least a skill that will make them self-reliant. Majority of people in the society are ignorant of the role played by technical and vocational education and training sector. The sector provides skills, knowledge and attitude necessary for employment and self-reliant. There is need for the governments, that is both federal and state, to devise means of encouraging students to enrol in technical programmes more especially now that unemployment rate is high.

Researcher

From your experience as a manager in the TVET sector, are there adequate teaching and learning facilities on ground?

Participant

Well, so to say in our own standard, I can say we have, but not all that adequate.

Researcher

Is there adequate funding from federal government to technically oriented institutions?

Participant

Not much because we are underfunded.

Researcher

Based on your experience in the field of technical and vocational education and training,

what can you say about public perceptions of the sector?

Participant

Technical vocational education is practically a field that provides skills necessary for employment and self-reliance. It is an area with the capacity to produce human resources for technological and economic development. However, with all the benefits and capabilities of the sector, the society holds a negative perception towards the sector and this is majorly due to inadequate knowledge of the sector. Several people think that technical and vocational education and training is meant for children who are under-privileged in the form of, let me say those who are not really rich; students from poor homes. Students from homes that are socio-economically low. They are majorly the students you find in vocational technical education. That is the general perception of people around here. But in the real sense, it is not for the dropouts. Every child has his aptitude and the ability of the child determines which type of education he pursues. So it does not really go for the fact that one must be a dropout before he can venture into vocational technical education. Students who go to pursue vocational technical education are students who have no option elsewhere, particularly those that have applied for admission into universities and are not able to get admission. There is need for government to do something about this unfortunate situation.

Researcher

What does TVET curriculum emphasize?

Participant

You see because it is TVET curriculum, people think the emphasis is only on skills provision or development but it goes beyond that. People in the technical education system also go to universities and other higher institutions. That means the students are taught both theory and practice. That is to tell you that the curriculum also comprises of theory or general education, which include subjects like Mathematics, English, physics and so on.

Participant 10

Researcher

Do you have adequate teaching and learning facilities in your college?

Participant

Most of the departments lack adequate teaching materials due to lack of adequate funds. The school authority used to provide adequate funds for all departments some years back but things have now changed. The departments cannot even afford to repair damaged machines

or replace worn tools. You see, almost all machines in the workshops are either broken, worn or out-dated and skills can never be properly taught or acquired without appropriate facilities.

Researcher

Are examinations nationally conducted or each college conduct its own?

Participant

We set our questions and administer in the first two years but when it comes to final examinations, NABTEB set all the questions for all technical colleges in Nigeria and the exams are written on the same day for each subject across the country.

Researcher

Do your students participate in student industrial work experience scheme (SIWES)?

Participant

We send our students for industrial attachment for a period of six weeks during long vacation in their final year. The exercise gives them opportunity to put what they have learnt into practice and to acquire more skills.

Researcher

What are the entry requirements into the technical colleges?

Participant

Requirement for admission into technical colleges is Junior School Certificate and an aptitude test for engineering students. Candidates with Senior Secondary Certificates are also admitted if they seek admission here.

Researcher

Do you think your products are adequately trained to be self-reliant?

Participant

I don't think so. You see the reality is that most of our graduates cannot be able to practice what they were trained to do because they lack the skills. They cannot operate simple machines or carry out welding operations. They did not learn those skills due to so many factors, which include lack of qualified teachers and learning facilities.

Participant 11

Researcher

What is societal's view of technical and vocational education and training curriculum?

Participant

The notion some people hold that TVET curriculum comprises of practicals with little or no theory is a baseless assumption. Those people do not know the content of the curriculum but

because the system focuses on skills development and acquisition, they think what we do or teach is only workshop practice. What we do is more than teaching workshop practice only. The curriculum also comprises of theory or general education, which include subjects like Mathematics, English, Physics and so on.

Researcher

Do you have information and communication technology department or facilities?

Participant

In our college, we have enough information and communication technology facilities like computers and projectors. We have four well-equipped computer rooms where students go and do their assignments and over eighty percent of the staff, academic and non-academic, have been given a laptop each. Some departments have been provided with projectors to aid the teaching process

Researcher

In your opinion, how can the society be sensitized about the importance or role of technical and vocational education?

Participant

Yes, there is need to formulate policies that will enlighten the generality of the populace in the form of ensuring that parents become aware of the importance of vocational technical education and at the same time to include incentives that will help to popularize vocational technical education. Through that, students will become interested and at the same time parents will be willing to release their children to engage in vocational technical programs.

Researcher

Why is technical and vocational education and training viewed in this way?

Participant

Well, to me I feel it is because the people who are actually designing the policy are not technically oriented. So they do not lay emphasis and did not see much meaning in what they are doing as a policy. They only use it as a policy but they don't direct it for implementation. But if the people who are actually preparing this curriculum are technically oriented too, it means they will follow it up to ensure it is properly implemented because the policy makers are not from technical education. They are just policy makers. They use the general education to implement policies that are supposed not to be implemented in technical education. And these are the loopholes.

Researcher

What advice would you give towards the improvement and development of the

317

sector?

Participant

Like I said earlier on, there is need for government to come up with a policy that will boost enrolment, which will encourage the students as well as the parents to allow their children to participate or to engage in technical and vocational education. One of the policies that should be enshrined in the technical and vocational education program is the policy of ensuring that there is collaboration between the institutions and the industries. That is, the learners, the teachers and the employers. There is serious gap. A very wide gap between the institutions that offer technical vocational education and the employers of labour exists. As such, it makes those who graduate from technical vocational institutions to have problems blending in the world of work. Their skills are not relevant to what is required in the industries. So there is need to draw a policy that will make industries participate and have input particularly in the curriculum of vocational technical education. It will help. At the same time, there is need to also commit them to, sort of, help in funding technical vocational institutions. If they participate in funding technical vocational institutions, it will make them to have the spirit of belonging. By so doing, they will also participate in the process of ensuring that the right training is given to the students of technical vocational institutions.

Participant 12

Researcher

What is your perception of the TVET sector?

Participant

My perception of the sector is that technical and vocational education is a system with the capacity to provide or develop human resources for economic and national development. It is also a system that provides skills for employment and self-reliance. However, the society sees technical and vocational education and training as a sector established for students who do not have the ability to proceed to universities. This is an indication that the society is ignorant of the role of technical and vocational education.

Researcher

Do you agree with the societal perception of technical and vocational education and training?

Participant

I don't. I do not agree with that view. In fact, technical and vocational education and training is what is sustaining the society, the country and the world at large. We all rely or depend on

technical education in one way or the other. All physical developments are products of technical education. Technical education provides skills for employment and self-reliance.

Researcher

Is technical and vocational education and training adequately funded?

Participant

Well, government is trying but there is need for more.

Appendix 10: Student's application for extension of time for resubmission

School of Education

Edgewood Campus

University of KwaZulu- Natal

South Africa

31 August 2015

To: The Higher Degrees Committee

School of Education

University of KwaZulu- Natal

Application for extension of time to submit Revised PhD Thesis

I hereby wish to apply for extension of time to November, 2015 to resubmit my Thesis, which is at the final stage of completion.

The correction required me to travel outside South Africa to generate additional data, which took me longer time than expected.

I hope my application will be approved.

Student Name: **Ezekiel Bangalu Arfo**

Student Number: **212561884**

Supervisor**:   Professor SM Maistry**

Topic**:   A Comparative Analysis of Technical and Vocational Education and Training Policy in Selected African Countries.**

Thank you.

Ezekiel Bangalu Arfo

Appendix 11: Approval of request for extension of resubmission time to November, 2015

02 September 2015

Mr EA Bangalu
Elwa Church Federal
Gombe Estate
Nigeria

Dear Mr Bangalu

SPECIAL REQUEST:EXTENSION FOR SUBMISSION (DOCTOR OF PHILOSOPHY)

The School Research & Higher Degrees Committee chair (SRHDC) executively approved your request for extension of time to submit revised PhD Thesis.

Regards

Bongi Bhengu
Academic Administrative Officer
Research & Higher Degrees office

Cc: Professor PJ Morojele
Academic Leader Research