

**The emerging Tanzanian concept of competence: conditions for
successful implementation and future development**

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in Partial Fulfillment of the Requirements for the Degree of
Doctor of Philosophy

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Declaration

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Abstract

Competence-based education and training (CBET) has received much interest globally due to its perceived potential in producing competent graduates required by the labour market. It is currently a common feature of most vocational and technical education and training reforms around the world. However, the term 'competence' has wide and varied contextual meanings interpreted from a myriad of perspectives; hence diverse implementation practices are evident.

In this study I review the evolution of CBET and understandings of the notion of competence globally, and examine and critique its efficacy in addressing the challenges of skill formation in Tanzania. Initially, through review of literatures, I distinguish four competence approaches – *behaviourist*, *generic*, *integrated (cognitive)*, and *social-constructive*, from which I develop a theoretical framework to map the global competence approaches and CBET trajectories and within this specific path followed by Tanzania.

Due to a combination of global and national influences, the introduction of CBET in Tanzania in early 2000 marked a paradigm shift from the traditional knowledge-based education and training (KBET). In order to explore the relationship between the external and internal factors in shaping this change, eight interviews were initially conducted with national policy makers, including the 'pioneers' of Tanzanian CBET. The complex dynamic of shaping factors was explored more thoroughly through a further 16 interviews with four CBET pioneers, two policy makers, one employers' association, two professional associations and seven employers of CBET graduates in order to understand how wider influences are interpreted by those 'on the ground'. In addition, a survey of 28 teachers from technical institutions and document analysis were undertaken. This research approach at global, national and local levels suggests that a ***social-technical*** model of competence could emerge in Tanzania. The study also considers the conditions for its successful implementation.

Dedication

To Mukahangisa, my mother for her prayers, Babiligi, my father (the late) for introducing me to school, and Vestina, my beloved wife for morally supporting this indulgence over many days, weeks, and months and other family moments, for being there for me until it is done!

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List of abbreviations

ADH	Amana District Hospital
AQRB	Architects and Quantity Surveyors Registration Board
ATC	Arusha Technical College
ATE	Association of Tanzania Employers
BBiG	Vocational Education and Training Act (in Germany)
BDH	Bagamoyo District Hospital
BERA	British Educational Research Association
BTP	Business Management, Tourism and Planning
CASE	Center for Social and Economic Research
CBC	Competence-Based Curriculum
CBE	Competency-Based Education
CBET	Competence-Based Education and Training
CBT	Competency-Based Training
CBTE	Competency-Based Teacher Education
CEDEFOP	European Centre for the Development of Vocational Training
COSATU	Congress of South African Trade Unions
CPRI	Centre for Post-14 Research and Innovation
CRB	Contractors Registration Board
DfES	Department for Education and Skills
DIT	Dar es Salaam Institute of Technology
DOE	Department of Employment (later became ED – Employment Department)

EAC	East African Community
EC	European Commission
EFA	Education For All
ERB	Engineers Registration Board
ESAURP	Eastern and Southern African Universities Research Programme
ESR	Education for Self-Reliance
EU	European Union
GDP	Gross Domestic Product
GGM	Geita Gold Mine
GMC	General Medical Council
HAS	Health and Allied Sciences
HEAC	Higher Education Accreditation Council
ICT	Information and Communication Technology
ILO	International Labour Organisation
KBET	Knowledge-Based Education and Training
KIST	Karume Institute of Science and Technology
KMK	Standing Conference of Ministers of Education (<i>Kultusministerkonferenz</i>)
LMDS	Labour Market Demand Survey
MCT	Medical Council of Tanganyika
MIST	Mbeya Institute of Science and Technology
MNH	Muhimbili National Hospital
MoEM	Ministry of Energy and Minerals

MoEVT	Ministry of Education and Vocational Training
MoHSW	Ministry of Health and Social Welfare
MOU	Memorandum of Understanding
MSC	Manpower Services Commission
NACTE	National Council for Technical Education
NBAA	National Board of Accountants and Auditors
NBMM	National Board of Materials and Management
NBS	National Bureau of Statistics
NCHE	National Commission on Higher Education
NCPS	National Council of Professional Surveyors
NCVQ	National Council for Vocational Qualifications
NECTA	National Examinations Council of Tanzania
NGOs	Non-Governmental Organisations
NOS	National Occupational Standards
NQF	National Qualifications Framework
NTA	National Technical Awards
NTF	National Training Framework
NTQF	National Technical Qualifications Framework
NTRA	National Training Reform Agenda
NTVQ	National Technical and Vocational Qualifications Framework
NVA	National Vocational Awards
OBE	Outcomes-Based Education
OECD	Organisation for Economic Co-operation and Development

PAYE	Pay As You Earn
PBTE	Performance-Based Teacher Education
PISA	OECD Programme for International Student Assessment
PPE	Personal Protective Equipment
PPP	Public-Private Partnership
PSPTB	Procurement and Supplies Professionals and Technicians Board
QCA	Qualifications and Curriculum Authority
SADAC	Southern Africa Development Cooperation
SAQA	South African Qualifications Authority
SAT	Science and Allied Technologies
SDL	Skills Development Levy
SJCET	St. Joseph College of Engineering and Technology
SQS	Sector Qualification Strategies
SSC	Sector Skills Councils
SSA	Sub-Saharan Africa
SSDA	Sector Skills Development Agency
STAMICO	State Mining Corporation
TAFE	Technical and Further Education
TANNA	Tanzanian National Nurses Association
TANU	Tanganyika African National Union
TBL	Tanzania Breweries Limited
TCME	Tanzania Chamber of Minerals and Energy
TCU	Tanzania Commission for Universities

TET	Technical Education and Training
TLF	Teachers Education and Learning Facilitation
TNMC	Tanzania Nurses and Midwives Council
TTA	Teacher Training Agency
TUCTA	Trade Union Congress of Tanzania
TZ	Tanzania
UK	United Kingdom
UN–ECA	United Nations – Economic Commission for Africa
UNESCO	United Nations Education, Scientific and Cultural Organisation
URT	United Republic of Tanzania
USA	United States of America
VET	Vocational Education and Training
VETA	Vocational Education and Training Authority
WDL	Williamson Diamond Limited
WDMI	Water Development & Management Institute
ZATUC	Zanzibar Trade Union Congress

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CHAPTER 1: INTRODUCTION

Introduction

Over the last decade, studies on vocational and technical education and training systems in many countries globally (Arguelles and Gonczi, 2000; Mulder *et al.*, 2007; Brockmann *et al.*, 2008a; Biemans *et al.*, 2009) indicate a major trend of implementation of competence-based education (Biemans *et al.*, 2004; Wesselink *et al.*, 2007), often termed competence-based education and training (CBET). In the Dutch vocational education system for example, the “trend extends to all educational programs and fields of study and has been stimulated by government policy” (Wesselink *et al.*, 2010: 20).

However, an analysis of findings from background literatures suggests that the notion of competence is perceived differently in different parts of the world. Though similar terminologies are used, diverse perceptions of CBET and the notion of competence are evident confirming “distinct meanings, rooted in the countries’ institutional structures and labour processes” (Brockmann *et al.*, 2008a: 227). A major divergence in competence-based approaches is on the type of model adopted. For example, a knowledge-based model regards competence as multi-dimensional that “relies on the integration of practical and theoretical knowledge, as well as personal and social qualities within a broadly defined occupational field” (*ibid.*: 227); whereas for a skills-based model “competence refers to the performance of fragmented and narrowly defined tasks, with minimal underpinning knowledge” (*ibid.*).

CBET was introduced in the tertiary non-University education and training sector in Tanzania, commonly known as the technical education and training (TET) sector, in early 2000 in order that the education and training system would become more capable of producing ‘hands-on graduates’. The development of CBET became increasingly important in recent decades, and it is being debated how to extend it to other education and training levels in the country. This movement emanates from its perceived potential in producing competent graduates required by the labour market for economic and social development

(Bowden, 1997; Mulder, 2007). The movement in the country was also due to a combination of global and national influences which marked a paradigm shift from the traditional knowledge-based education and training (KBET). Due to prevailing economic and social changes which were taking place in the country in the late 1980s and early 1990s as Tanzania was struggling to shift from Ujamaa¹ policy to liberalisation policy as a result of what was happening internationally, the Tanzanian market experienced unprecedented pressures that created the need for a shift to CBET. It was perceived that with a well defined competence approach, the TET system would be able to provide skills and competences to the workforce and address the labour market challenges.

The motivation for conducting this research originated from my own experience as a leading official working in an organisation charged with coordinating the delivery of technical education and training in Tanzania. While working in this organisation - the National Council for Technical Education (NACTE) - I was privileged to participate in the processes and activities that saw the advent of the competence approach in the country way back in 2000. Though the notion of competence and CBET in the country are much heralded, competence is largely treated as a technical matter. I will argue that the technical character of the Tanzania model of competence results from the borrowed pure version of the behaviouristic approach by CBET pioneers who travelled abroad to study the conventional approaches. With limited adaptation due to weaknesses in institutional structures and the inability for 'translation' on return, the Tanzania notion of competence was broadly defined on paper reflecting a largely behaviourist/technicist approach. The technical approach to the notion of competence spurred my interest in this research to explore the conceptions of competence and how Tanzania could adopt a particular version or versions of competence given its position in historical, technological, social, and economic development.

¹ Ujamaa is a kind of African socialism whose principles were collective production, equal opportunity, and self-reliance. It refers to the traditional African institution of the extended family and its practice of holding goods in common and sharing them among all members of the family, stressing communal co-operation, brotherhood, voluntary obligation towards common welfare and harmony (Cameron, 1980; Nyerere, 1967a).

Educational system in Tanzania

Tanzania, officially referred to as the United Republic of Tanzania (URT), is a union of Tanganyika which attained her independence from the United Kingdom in 1961, and Zanzibar whose independence was in 1963 and also gained from the United Kingdom. The union of Tanganyika and Zanzibar to form the URT was celebrated in 1964. Though Zanzibar has its own education system for levels other than University education (EAC, 2011), its technical institutions are registered by NACTE and deliver NACTE accredited programmes under the CBET system practised in Tanzania Mainland.

The educational system in the Tanzania Mainland is based on the 2-7-4-2-3+ system: two years of pre-primary education, seven years of primary, followed by four years of ordinary level secondary, two years of advanced level secondary and a minimum of three years of tertiary level. The pre-primary education level caters for young children of ages from 3-6 years old. The primary education level is a seven-year education cycle and is compulsory for all seven to fourteen years old. "At the end of this cycle, pupils enrol in secondary education", vocational education and training (VET) or enter the world of work (TCU, 2010: 13).

The secondary education level "refers to post-primary formal education offered to persons" who successfully complete seven years of primary education and meet the "requisite entry requirements for the second level of national education" (ibid: 13). This level is sub-divided into ordinary level (Forms 1 to 4) which lasts for four years, and advanced level (Forms 5 to 6) lasting for two years. Students who complete ordinary level secondary education "go on to the next stage of advanced level secondary education", vocational education and training (VET), and professional training or join the world of work (ibid: 13). Those who complete advanced level secondary education join either tertiary education and training institutions or the world of work.

Tertiary education level in Tanzania is sub-divided into non-University education and training (technical education and training) and University education (Universities and affiliated colleges). Technical and vocational education and training (TVET) is currently coordinated by two separate bodies, each operating

through its establishing Act. Technical education and training, which is the focus of this study, is coordinated by NACTE resulting from Act No. 9 of 1997 (URT, 1997; URT, 2012) while vocational education and training (VET) is under the mandate of Vocational Education and Training Authority (VETA) as regulated by the VET Act No. 1 of 1994 (ibid).

Post-primary vocational colleges offer crafts courses in diverse vocational areas such as cookery, masonry, electrical installation, carpentry, tailoring, and painting (TCU, 2010). These courses which are offered by institutions registered by VETA are mostly single trade with a bigger proportion of practical (hands-on) learning and less on theory. The courses are accredited by VETA and follow a National Vocational Awards (NVA) system lasting for up to three years. The NVA system has three levels: NVA 1 (certificate of competence level 1), NVA 2 (certificate of competence level 2), and NVA 3 (certificate of competence level 3); each level spans a full year. Successful students could join the world of work or continue with technical education and training.

NACTE oversees tertiary non-University level programmes spanning from certificate to degree levels. Tertiary non-university education and training in Tanzania is a fairly large enterprise. Statistics as at December 2013 stand at 358 audited technical institutions of which 156 are public and 202 are private; and a total number of 463 CBET curricula were under implementation after having been audited/validated by NACTE (for details see Table. 5.3 in Chapter 5). The TET total current student enrolment stands at 179,236 as indicated in Table 1.1 below and the system outputs over 50,000 graduates annually to the labour market.

Table 1. 1 Students population per Subject Board/Area

Subject Board/Area	Number of Institutions per Subject Board	Number of Institutions		Student Population
		Registered (Full ² & Provisional ³)	Accredited (Full ⁴ & Provisional ⁵)	Enrolled
Business Management, Tourism and Planning (BTP)	134	126	32	95,263
Health and Allied Sciences (HAS)	127	123	41	17,030
Science and Allied Technologies (SAT)	74	74	35	23,685
Teachers Education and Learning Facilitation (TLF)	23	23	3	43,258
Total	358	346	111	179,236

Source: NACTE (2013) (Data as at December, 2013)

Teacher education and training, which was formerly directly coordinated by the parent Ministry of Education and Vocational Training (MoEVT), has since 2012 been brought under NACTE's remit, now falling under the TLF Subject Board.

Tertiary University education is under the remit of the Tanzania Commission for Universities (TCU). This level admits post-advanced level secondary education students and ordinary diploma graduates who wish to follow the academic route under the Universities or their Affiliated Colleges.

Apart from the formal education system discussed above, Tanzania Mainland also offers a non-formal education and training system. Non-formal education is "generalised as out of school education as distinguished from formal education,

² Full registration is granted to an institution that is fully operational and has acquired enough experience, human, physical and financial resources to ensure sustainability for running its programmes (NACTE, 2001a).

³ Provisional registration is granted to an institution that either has deficiencies that it can redress in a short duration before is considered for full registration or has just started to admit students, and has enough resources for full or considerable part of the programme (ibid).

⁴ Full accreditation is granted to an institution which meets adequately the stipulated accreditation requirements (i.e. preparation of a Self-evaluation study report; establishment of a quality system evidenced by quality policy and quality management plan; adoption of the NTA; and submission of information on departments that have capacity to deliver a CBET curriculum) (NACTE, 2001b).

⁵ Provisional accreditation is granted to an institution where NACTE is of the opinion that there are some requirements to be fulfilled by the institution within a specified time frame (ibid).

which is mainly in school education” (TCU, 2010: 14). Many Ministries undertake formal and non-formal education and training in Tanzania, thus making the whole exercise organisationally complex. These include the Ministry of Education and Vocational Training; the Ministry of Communication, Science and Technology; and the Prime Minister’s Office (Regional Administration and Local Government). There are also individuals, “several other Ministries, agencies and parastatals providing specific sector training in areas such as health, agriculture, tourism and communication. Altogether there are about 15 Ministries, agencies and parastatals involved in formal [and non-formal] education” (URT, 2007a: 9). This is one of the organisational challenges facing the educational system in Tanzania, as affirmed by the TVET policy:

“With the exception of those institutions which are under the Ministry of Education and Vocational Training, the coordinating bodies for Vocational and Technical training, that is VETA and NACTE, do not have clearly defined legal framework to institute or facilitate harmonious functioning of all institutions involved in the training of technical personnel in the country. There exists a weak mechanism for integrating and coordinating the provision of TVET institutions which are under ownership of other ministries” (URT, 2012: 7).

This organisational challenge, notwithstanding, the new TVET policy is cognisant of the fact that “TVET cuts across institutional mandate of various government ministries, training institutions” and other bodies (URT, 2012: 24). The policy thus affirms “to establish relevant and effective structures” (ibid: 7) as well as clarity on assigning responsibilities and roles to different key stakeholders” (ibid: 24). This is among the issues to be investigated in this research.

Research argument, objectives and aims

Given the structures and wider context of TVET in Tanzania, the research argues that a well-defined competence approach alone may not solve all the challenges of skill and competence formation. It should be seen not as a ‘single magic bullet’, but as a central component of a complex skill formation. Hence, this study explores this argument by examining the relationship between the external and

internal factors in shaping the change from the traditional KBET. The exploration intends to unveil the possible emerging Tanzanian concept of competence and the conditions for successful implementation and future development.

Any research whose results are not disseminated to wider stakeholders but “ends up on a shelf somewhere” is wasted (Boynton, 2005: 154). Therefore, as a researcher I considered it important to plan and decide when, how and to whom my research findings should be disseminated in order to inform the audience about the research findings, to contribute to knowledge, and or to inform policy or enlighten people about research practice (ibid: 177-178). In this study I want to underscore the important role this thesis has as a ‘use strategy’. The central aims, therefore, are to explore CBET manifestations and implications globally and their influences on the Tanzanian CBET and the notion of competence developed in this national context; and to utilize the study outcomes as ‘a use strategy’ to propose necessary intervention measures to bring about an expansive approach to effective CBET implementation strategies to address the conditions for successful implementation and future development. In order to address the central aims, two research objectives are formulated namely: to review the evolution of CBET and understandings of competence globally; and to examine and critique its efficacy in addressing the challenges of skill formation in Tanzania.

Rationale for the research

CBET was introduced in Tanzania in the early 2000s following complaints from many employers (public and private) that the education and training system failed to produce graduates with adequate competences to undertake diverse work activities. It was perceived that among observable and measureable competences (skills, knowledge, and attitudes/behaviours), the skills component had major weaknesses. Complaints were that technical institutions delivered content-based curricula with an emphasis on theory/knowledge. The observed weaknesses in the skills level of the Tanzanian workforce became more apparent after the country liberalised its economy in the 1990s with a consequent increase in private investment. The private investors from both abroad and locally

demanded an education and training system capable of improving Tanzania's skills level and international competitiveness.

Before CBET was introduced in Tanzania, the TET system covered mainly engineering-related programmes. The system was characterised by minimal possibilities of progression to higher level programmes. Because of this terminal nature with slim progression possibilities, the system attracted very few students and enrolment declined annually. This trend contributed significantly to a lack of technicians and professionals in engineering and other technical fields to combat challenges of national development. Consequently, the system became unpopular to many stakeholders.

With the introduced economic liberalisation policy in the early 1990s taking a firm grip, the need for an enlarged TET system capable of expanding the enrolment levels, facilitating progression possibilities, and producing skilled graduates was indispensable. For this to be realised, NACTE was established and sanctioned to oversee and coordinate provision of TET in the country (URT, 1997).

The competence-based curricula started to be implemented in technical institutions in 2002. Thereafter many institutions have developed competence-based curricula and are contributing graduates to the labour market. Since CBET was initiated in the country with widely anticipated positive benefits, there has been no research on the Tanzanian concept of competence, its translation and the ways in which a range of factors interact to affect skill levels. Consequently, information about the relevance of the Tanzanian CBET for productivity and skill formation as well as the conditions for successful implementation and future development is scarce.

The preliminary investigation which I conducted in Tanzania between December 2011 and January 2012 (details in Chapter 4) generally showed that external factors have a particular influence on the Tanzanian CBET. Nevertheless, since CBET practices were received, interpreted, adopted, implemented, and adapted in the country similar to what Phillips and Ochs term 'policy borrowing' involving "the conscious adoption in one context of policy observed in another" (2004:

774), no research has been conducted to evaluate the performance of this hybrid-CBET (Priestley, 2002) against the existing assumptions of the competence model, and against the “limitations of policy borrowing” (Steiner-Khamsi, 2006: 666). Also no research has been conducted to establish employers’ views on the value of competences possessed by CBET graduate employees, which may well serve as an attempt to predict its performance in relation to future need. This research, therefore, seeks to explore the existing dominant concept of competence in Tanzania; how it is viewed by various stakeholders; whether indeed another version of competence is desired and the conditions for the successful implementation of an adapted model and future development.

Research questions

In order to explore the complex dynamic of the factors shaping the shift from KBET to CBET in Tanzania it was imperative to conduct background international literature research on competence systems as well as to look at the organisations in the country for sites within the economy where particular ‘translations’ have taken place. This was done through addressing the following research questions:

- a) What is the dominant or prevailing ‘model’ of competence in Tanzania; how did it emerge; what are its assumptions and how does it relate to international debates on competence?
- b) How did the model aim to improve productivity and skill and how is it performing against its existing assumptions?
- c) What are the views of the stakeholders that mediate this policy approach within Tanzania; what debates are taking place around this model and where is it heading (trajectory)?
- d) What is the relationship between the dominant model of competence and the wider governance formation (e.g. regulatory institutions, private sectors networks, provider institutions and the Tanzanian state more generally)?
- e) What evidence that another model of competence could emerge in Tanzania; what are its main features and how might it perform in relation to future need?

Overview of research methodology and thesis structure

In light of the research aims and questions the study involves “multiple social constructions of meaning” (Robson, 2002: 27) for the notion of ‘competence’ and CBET. Hence, the research strategy and design adopted to allow for an in-depth understanding of the notion of competence and CBET in the context of this study are qualitative. The choice of qualitative strategies as my study approach is based on the fact that they provide for depth rather than breadth to the analysis (Mabry, 2008). Therefore, the study employs various qualitative methods in the empirical fieldwork including interviews, questionnaires, and documentation in order to adequately explore the processes of CBET ‘translation’ and ‘mediation’ by diverse translators in the country.

The study is organised around seven chapters:

Chapter 1 sets up the main arguments and structure of the thesis. It presents background information about Tanzania, provides rationale for the study, and spells out background context by elaborating the study aims. It presents research questions and provides an overview of the research methodology.

Chapter 2 reviews the background literatures and explores the origins of CBET in six nations (USA, UK (England), Australia, the Netherlands, Germany, and South Africa), and discusses the notion of competence and pertinent approaches over time. It examines and analyses CBET implementation in these six nations and consequent debates.

Chapter 3 presents competence approaches as the main traditions distinguished in competence research; and discusses the CBET trajectory in the six nations. Drawing from this background work, the chapter develops a theoretical framework to map the arguments/debates as well as CBET trajectories over time. The chapter also draws on the concept of the expansive - restrictive continuum to discuss the way national systems appear to move along the continuum, but exhibiting varied characteristics depending on national contexts.

Chapter 4 discusses the Tanzanian key CBET issues by presenting the external and internal factors influencing the Tanzanian CBET and the notion of competence as informed by the background literatures. It uses the preliminary investigation findings to present a preliminary Tanzanian notion of the competence and CBET trajectory. It draws out inferences from the preliminary investigation work to determine the research strategy.

Chapter 5 discusses the philosophical underpinnings, theoretical perspectives and methodology guiding the study. The chapter discusses the methods of data collection (interviews, questionnaires, and documentation), identifies the stakeholders taking part in the study, and the adopted analytical framework.

Chapter 6 presents the views of the key stakeholders taking part in the study as study findings. This chapter provides discussion and analysis of the study findings and highlights the conditions that are found to be a form of 'static equilibrium' that 'locks' the concept of competence in the Tanzanian context.

Chapter 7 draws together the findings to draw conclusions in support of a new way of looking at the concept of competence in Tanzania. The overview demonstrates how the research questions and the central aims have been addressed. Under the main study findings the chapter addresses the importation of the technicist model of competence in Tanzania, pertinent weaknesses of the model and conditions that 'lock' the concept of competence in the country. It provides a way of reforming the state and institutions as conditions to 'unlock' the concept of competence in order to develop 'high-skill ecosystems'; and draws policy suggestions and implications arising from the research. The chapter also reviews the reform of CBET in Sub-Saharan Africa as a final reflection in order to draw out the central argument on the Tanzanian notion of competence and the theoretical contribution of the study. The chapter highlights new areas open for further research.

CHAPTER 2: COMPETENCE-BASED SYSTEMS: A LITERATURE AND CONCEPTUAL REVIEW

Introduction

This chapter considers the notion of competence through conducting an international review of the origins of CBET and pertinent debates within six countries - United States of America (USA), United Kingdom (England), Australia, the Netherlands, Germany, and South Africa. It traces the origins, movements and pertinent debates around CBET over time. This is regarded as vital since the development of an effective CBET system has become increasingly important in recent decades to most countries in the world due to its perceived significance to economic and social well-being.

It is expected that a detailed review of the notion of competence in the five developed countries in America and Europe with vibrant educational systems enjoying vast experiences could benefit the study on the notion of competence in a developing country like Tanzania. Since the introduction of CBET in Tanzania was a result of the study visits by the officials from Tanzania to most of these countries, the definition, development and implementation of CBET undertakings in Tanzania was influenced by experiences in the reviewed countries. It is worth mentioning that TVET and CBET agendas in developing countries, including Tanzania, have always been influenced by the advances in technology and the direction of global educational policies; notably from the developed world. The choice of South Africa as one of the case-study countries is based on the fact that this country's model was developed within the African context largely impeded by various institutional reforms and weak fiscal arrangements, in part comparable to Tanzania's situation. The inclusion of this national case is expected to bring dimensions of historical, key institutional structures and actors relevant to the Tanzanian environment.

Competence-based systems

The concept of competency-based education (CBE) originated in the USA in the late 1960s (Burton, 1977; Bowden, 1997). Its beginning was in teacher

education, popularly known as the competency-based/performance-based teacher education movement (Burton, 1977). The notion of CBE “evolved through applications to other professional education programmes in the USA in the 1970s, vocational training programmes in the UK and Germany among others in the 1980s and vocational training and professional skills recognition in Australia in the 1990s” (Bowden, 1997: 179). Other literatures (Weigel *et al.*, 2007) indicate that in Germany the notion of CBE first appeared in VET in the 1970s, in the Netherlands in the 1980s (Biemans *et al.*, 2009), and in South Africa in the 1990s (Chisholm, 2007). Due to diverse beginnings of competence-based systems, various concepts such as competency-based education (CBE), competency-based training (CBT), outcomes-based education (OBE) and competence-based education and training (CBET) are evident. Since CBET covers both *education* which explores “new ways of being that lie beyond our current state” (Wenger, 1998: 263) and *training* which normally moulds the learner to a desired standard with focus on “competence in a specific practice” (ibid: 263); and because Tanzania adopted the concept of CBET, this research uses the concept of CBET.

Background literatures confirm the emergence of diverse versions of CBET resulting from the particular nature of the national systems within which it is developed. In the USA, for example, the decision to implement CBE in the late 1960s was heavily influenced by social and political pressure, particularly concern about low student achievement, the poor quality of teacher training, and the high costs of education (McKenna, 1992). Its implementation came as the result of the Government’s agenda for training reforms and improved skills recognition. In the UK (mainly England), the competence movement arose as a result of the mid-1970s economic recession, which led to rising inflation and increasing unemployment levels. In order to avert the situation, policy debates directed the Government to move “towards a complete overhaul of vocational education and training strategy...and consequently ‘competence’ became decidedly dominant” (Bates, 1997: 5).

In Australia, the competence movement in the form of CBT emerged from observed weaknesses in the skills level of Australian workforce as a result of

changes in the economy and the pace of technology (Smith, 1996). In the Netherlands, the competence movement resulted from stakeholders' complaints regarding the disparity between skills demand in the labour market and skills supply by the VET system. Here too, to address this challenge, CBE was introduced (Brockmann *et al.*, 2008b).

In Germany the notion of CBE first appeared in VET in the 1970s, initially implemented through the concept of key qualifications (Weigel *et al.*, 2007). Later in 1996 CBE started to follow an action competence approach characterised by a "curricular framework in the form of Learning Areas" (*ibid.*: 57). In South Africa the notion of CBE, recently reframed as OBE, was introduced in 1994 in an "effort to address unemployment through regulating the labour market and process of skills acquisition" (Chisholm, 2007: 297). The intention was to emancipate the majority of learners who were typically ill-served by the past South African apartheid education system (Van Wyk and Mothata, 1998).

Fundamentally, the origins of CBET and its consequent promotion in USA, UK (England), Australia, the Netherlands, Germany, and South Africa may be linked to economic-political concerns by Governments as an agenda for training reforms and improved skills recognition. This is explained in detail under the national cases and CBET typologies in the following section.

The national cases and CBET typologies

United States of America (USA)

Literatures confirm that in USA genesis of CBE has a close link to the "behavioural objectives movement of the 1950s"; emanating from the "thinking of educators such as Benjamin Bloom" (Bowden, 1997: 179) with a focus on intended outcomes of learning. Concern about low student achievement and poor quality of teacher training promoted a need to structure outcomes of learning in a manner to encourage teachers to express their instructional objectives in terms of observable student behaviours. It was considered that the approach would improve the "effectiveness of schools, teachers, and teacher educators"; and serve to address society's' concern about unsatisfactory

performance in the “development of programmes in teacher education” (Burton, 1977: 31).

CBE proponents advocated the specification of objectives as “directly observable behaviours which can be reliably recorded as either present or absent” (Bloom *et al.* 1971: 28). Reliable observations and judgment were vital features of the movement. Educational objective statements were written in operational terms beginning with action verbs such as *state, list, select, calculate, recognise*, which involve reliable observation, and thus allow no likelihood of misinterpretation (*ibid.*). This approach was seen by many as being too narrow, and thus received much criticism, then and now (Winning, 1993; Bates, 1995; Arguelles and Gonczi, 2000; Wesselink *et al.*, 2007; Mulder *et al.*, 2007; Biemans *et al.*, 2009; Brockmann *et al.*, 2008a).

The implementation of CBE in USA advocated two models, but each had proponents and opponents. The first was competency-based teacher education (CBTE) which hinged on ‘competency’ underpinned by knowledge (assessing the cognitive understanding of the teacher), performance (assessing the teaching behaviour of the teacher), and product or consequence (assessing the teacher’s ability to teach by examining the achievements of pupils). The second was performance-based teacher education (PBTE) with a focus on the performance and teaching behaviour of the teacher. It assessed “how the teacher performs his role, what behaviours are performed, and how successfully the teacher performs these competencies demanded of him” (Burton, 1977: 31).

The CBTE/PBTE idea arose from within the teaching profession itself after realising that traditional methods of teacher education were failing to produce satisfactory results in respect of both the education of teachers and the results that were being produced in schools. Consequently, the idea “possessed a significant group of supporters within the profession” (*ibid.*: 34) triggered by economic, educational, and political forces. USA provided an enabling environment for the development to be realised, entailing motivation and involvement of all pertinent education stakeholders.

Despite the support provided, the implementation of CBTE/PBTE faced major problems of identifying competencies to be learnt, and strategies for evaluating attainment. The key question that was raised in trying to solve the problems was: “what does the country as a whole want from its teachers, and through them, its pupils?” (ibid: 38). Then the trajectory of debate was pushed towards the specification of objectives, which had many challenges since “the needs of society cover a whole range of voices with different visions of what is relevant” (ibid: 38). A gap between policy and practice emerged, though the policy exhibited a strong “philosophical orientation” (Hall and Hord, 1987: 112; quoted in Trood and Gale, 2001: 167), and failed to make sufficient connections with the contexts of practice.

United Kingdom (England)

In the mid-1970s, many countries in Europe, UK included, experienced economic recession which led to rising inflation and increasing unemployment predominantly for young people. Criticism was directed at the educational system arguing that standards of attainment in basic skills were too low, hence making many school-leavers ‘unemployable’ (MSC, 1975; Wiener, 1981). Debates dominating policy were on the notion that education is a key engine of economic regeneration and therefore strong functional links between education and the world of work were imperative.

Literatures (James and Coleman, 1998; Arguelles and Gonczi, 2000; Mulder *et al.*, 2007; Brockmann *et al.*, 2008a; Biemans *et al.*, 2009) indicate that during the 1980s and 1990s the policy favoured vocational education, supporting increased emphasis on greater vocational relevance. This support led to the emergence of a competence-based vocational qualifications policy in the UK. Competence-based was favoured because of the perception that it would enable learners to mobilise resources (including knowledge) to master complex situations (Bates, 1997). Bates writes that “CBET appears to have first entered official thinking in the context of the problems posed by the development of the Youth Training Scheme, created in 1981 partly in response to escalating youth unemployment” (ibid: 5). The publication of *A New Training Initiative* (DOE, 1981), and various reports and official papers from the Manpower Services Commission on

'outcomes' and 'competence' during the 1980s influenced the launch of the CBET scheme with an emphasis on national standards for youth training provision (Bates, 1997).

Bates confirms that in the mid 1980s UK "moved towards a complete overhaul of vocational education and training strategy, the term 'competence' became decidedly dominant" (ibid: 5). Bates mentions *The Review of Vocational Qualifications* endorsed in the White Paper *Working Together, Education and Training* as the most influential publication in the 1980s that laid the foundations for developing a new system of vocational qualifications related to competence. Formal establishment of the National Council for Vocational Qualifications (NCVQ) was in October 1986, with a mandate to specify and implement national occupational standards (NOS) to meet employment needs (ibid).

According to Weigel *et al.* (2007), implementation of CBET within the national vocational qualification (NVQ) system in England was regulated by the Department for Education and Skills (DfES) via the Qualifications and Curriculum Authority (QCA). The Sector Skills Development Agency (SSDA)⁶ is responsible for funding, supporting and monitoring the Sector Skills Councils (SSC) which are mandated for skills development. The Sector Skills Councils work with Sector Qualification Strategies (SQS) to identify the skills needs of sectors. Through NOS, the sectors use competence to outline the current and future learning needs of employers in different sectors (Weigel *et al.*, 2007; Carroll and Boutall, 2010; McCoshan, 2013). Within VET "competence is represented by NVQs (National Vocational Qualifications) basing on the NOS" (ibid: 55). The NVQ system utilises occupational-type competence derived from the occupational standards. The DfES considered competence as a description of something which a person who works in a given occupational area should be able to do (NCVQ, 1991).

Some researchers (Hayward *et al.*, 2006; Pring, 2007; Ertl, 2000) argue that the vocational route in England has had historically, a lower social and educational status than the higher education route to university. The NVQ system and its

⁶ This situation has changed because some of these organisations have changed.

attempts to develop skills has experienced unending criticism which in turn has arguably “perpetuated the academic/vocational divide” (Brockmann *et al.*, 2008a: 229). England devised various “initiatives such as Train to Gain and Skills Academies, directed not at new entrants into VET but at up-grading the existing workforce in discrete skills in response to immediate employer needs” (ibid: 229).

The NVQ system was originally work-based and predicated on the notion of functional analysis of work roles to give the individual statements of competence. The emphasis on functional skills received much criticism from many people in the UK and abroad arguing that it seriously failed to realise that ‘underpinning knowledge’ is a vital component of CBET requirement. The criticism was mainly concerned with the traditional, behaviourist approach that was afforded to competence and CBET within NVQ system. Authors like Bates argued that a competence-based approach could lead to an impoverishment of learning as well as to the vocationalisation of general education (Bates, 1995). This initial strategy, which was strictly behaviouristic approach, was criticised as being narrow and simplistic to education and training (Bates, 1995; Winning, 1993).

In order to address this concern the concept of outcomes understood to be the results of individual processes (Ashworth and Saxton, 1990) emerged in the UK. Jessup argued that “qualifications based upon a clear specification of outcomes...provide a model which has general application to all qualifications” (Jessup, 1992: 189). Thus, in 1991 the UK Government “declared its intention of establishing ‘parity of esteem’ between academic and vocational education” (Jessup, 1995: 37). Following from this development, the NVQ framework was extended to include broad-based vocational qualifications resulting in the new qualifications called General National Vocational Qualifications (GNVQs) which were brought in in 1992 but later withdrawn. For this development, predicated on the notion of outcome-based descriptions of performance to happen in the UK (England), wider stakeholder consultations were made in which employers deemed it important to include ‘underpinning knowledge’ as part of their CBET requirement.

Australia

CBT was introduced in Australia in 1990 as a Government directive (Smith, 1996). It resulted from observed weakness in the skills level of the Australian workforce following changes in the economy and the pace of technology (ibid). Weaknesses in skills supply were attributed to a number of deficiencies identified in the existing training systems. It was felt that entry-level training served by existing apprenticeships and traineeships was inadequate. It was also felt that there was little portability of qualifications between the states and territories or from overseas to Australia. Industry representatives frequently expressed dissatisfaction with the training accessed from VET providers. More generally “it was felt that there was emphasis on fixed-length courses which providers chose to make available rather than on the development of skills which students and trainees needed” (Smith, 1996: 172).

Economic and technological changes necessitated a series of developments in workplace reform, and award restructuring and concern. Australia’s training methods were re-examined for improved skill levels and international competitiveness; thus CBT was introduced. Mulcahy confirms that the idea that “competency-based training (CBT) is a coherent model of vocation education and training with universal applicability” was “widely promoted by Governments and industrial parties in Australia” (Mulcahy, 2000: 259). Emergent trends within global economies, and constantly changing patterns of work, made CBT access vital for “both initial vocational preparations for young people leaving school and continuing training for the existing adult workforce” (ibid: 260). Consequently, CBT is presently implemented in all vocational education and training provisions in Australia.

Studies on CBT (Watson, 1993; James and Coleman, 1998; Velde, 1999; Hager, 2004) have been conducted in Australia focusing on the adequacy and appropriateness of curriculum, assessment and its utilisation, as well as on the way CBT influenced instructors’ practice during implementation. Literature reveals stakeholders’ expectations to achieve “the goal of developing an adaptable and flexible workforce” (Mulcahy, 2000: 260) from CBT due to perceived benefits. However, over the last decade before CBT benefits were

realised as affirmed by Mulcahy (2000), Australia witnessed a number of structural adjustments which led to “the establishment and subsequent redundancy of national industrial awards in the shift to enterprise-based agreements, the development of national competency standards, and moves towards national core curricula based on concerns for national uniformity and accountability” (Billett *et al.*, 1998: 78). The Australian Government’s policy and politics of vocational education and CBT were revisited to allow a shift to curriculum provisions with a focus on enterprise-specific needs; consequently redefining the institutional context within which CBT is implemented (*ibid*). The context is now “defined by a broad-based provision of vocational education and training (VET) and a market-driven strategy for this provision”, with CBT becoming “the main means of managing vocational education and training provision in an increasingly diverse and deregulated context” (Mulcahy, 2000: 260).

The National Training Framework (NTF) was introduced in 1996 and mandated to promote a “more flexible and industry relevant regulatory framework for VET” (*ibid*: 261). NTF empowered “industry and business groups to influence training provision directly” (*ibid*: 261). It influenced qualifications to be “gained through assessment against competency standards, instead of a course of study”; thus “moving away from an education-based VET system, towards the creation of an industry- or enterprise-based system” (*ibid*: 261). This training model suggests “consistency in outcomes assessed against industry and enterprise standards, rather than consistency in curricula” (*ibid*: 261). This notion led to criticisms of the NTF model from CBT opponents. Despite this, CBT is the only model in use in the Australian VET sector covering “technical and further education (TAFE), private training – enterprise training, on-the-job training in businesses and in industry – and training offered by sections of the adult and community education sector and the schools sector” (Mulcahy, 2000: 261). With the notion of competence guiding Australia’s National Training Reform Agenda (NTRA) continuing to receive sustained and ongoing critical attention, CBT rivals “argue that VET urgently requires satisfactory understandings of the integration of learning and human action” (Hager, 2004: 410; Tran, 2013) in order for CBT to

enable a “paradigm shift from thinking in task-specific qualifications to more general competencies” (Khaled *et al.*, 2014:429).

The Netherlands

The Netherlands’ VET system traditionally used attainment targets whose implementation was supported by the law enacted to introduce qualification structure in VET. However, attainment targets were criticised in that they were too specific, lacked apparent transferability and contributed to lack of flexibility and mobility. It was felt that there were mismatch between skills demand in the labour market and skills supply by the VET system. Stakeholders felt that attainment targets ought to “be more general, have more transfer potential, and contribute to flexibility and mobility” (Mulder, 2007: 7). The complaints led to the introduction of a competence-based qualification structure with an intention to prepare a new generation of students for more effective performance in workplaces (*ibid*).

Implementation of CBET, which is now a major trend in Dutch vocational education over the last decade (Biemans *et al.*, 2004; Wesselink *et al.*, 2007), “motivated institutions of vocational education and training (VET) to improve the links or connectivity between learning in school and learning in the workplace” (Wesselink *et al.*, 2010: 19). Wesselink (2007) affirms that VET policy resulted in a proliferation of CBE programs at all levels.

In the Netherlands CBET implementation has traditionally followed a sturdily school-based route with education commonly of general character having the “dual aim of preparing students for society as well as for the labour market” (Brockmann *et al.*, 2008b: 559). The high content nature of general education prepared VET to exhibit a broad knowledge base agreed by the social partners on the understanding that it “would facilitate vertical and horizontal occupational mobility as well as economic growth” (*ibid*: 559). Westerhuis (2007) confirms that the employers supported the general character of VET, valuing more abstract abilities, such as independence and reflective thinking.

For VET's goals to be realisable, the Netherlands Government enacted laws such as the 1996 Education Act which "broadened VET to include a system of company traineeships" featuring a school-based element. The Act "stipulated the need for school-based provision to include a substantial practical element", and also mandated provision for a demand-led, modularised, outcomes-based qualifications system (Heidemann *et al.*, 2000; quoted in Brockmann *et al.*, 2008b: 559). However, this initiative was marred by the emergence of "an array of narrow qualifications being drawn up by different economic sectors"; a move which was not "conducive to the application of knowledge to practice in the workplace" (Brockmann *et al.*, 2008b: 560).

This called for system review to incorporate the concept of core competences to generate a new qualifications structure "built upon a broad conception of qualification, focusing on the lifelong career perspective of students rather than on short-term economic needs" (*ibid.*: 560). The newly generated VET qualifications are built on the notion of competence with curricula developed in collaboration with social partners. Brockmann *et al.* affirm that the Netherlands competence-based VET system has a traditional focus on citizenship "designed to advance individual career-building and knowledge-based employability" (*ibid.*: 560). The system firmly embraces the notion of labour process knowledge and is "tailored to the individual student, their personal capacities and wishes" (*ibid.*: 561).

Germany

In Germany the notion of CBE first appeared in VET in the 1970s. It was characterised by de-specialisation and a higher degree of abstract knowledge and skills (Weigel *et al.*, 2007). By 1996, the German system of competence-based education in VET started to follow an action competence approach. Competence was "expressed as 'vocational action competence' or the readiness and capacity of the individual to act thoughtfully, individually and in a socially responsible manner in professional, societal and private situations" (*ibid.*: 57). The vocational action competence had three categories: *domain/subject competence*, *personal competence*, and *social competence* (*ibid.*: 57). This categorisation forms the basis of German VET.

The German VET system is a 'dual system' which is regarded as a source of pride at home and emulation abroad. It started in 1969 when the Vocation Education Law (BBiG) was first passed, and was revised in 1990 in preparation for impending German re-unification (Pritchard, 1992: 131). The dual system implementation is based on "partnership between the school sector and the business sector, the latter assuming the predominant role" (ibid: 131). The system requires a trainee to serve as an apprentice in a firm, where vocational and general subjects are taught in a vocationally-oriented school. Pritchard writes that Germany's "training system is based on transmission of existing trade-specific skills from qualified worker to apprentice, but moves are afoot to create a broader, less trade-specific foundation which would enable young workers to transfer more easily from one job to another" (ibid: 132).

Staff operating in the firm as per law requirement must be appropriately qualified, either as higher education graduates or holders of the *pedagogical aptitude certificate*. Mostly are master craftsmen or women having spent some years in practice before embarking on a training course to become a qualified worker – classically known as Meister. The Meister have management, teaching and counselling duties; and also "function as role models exhibiting the kind of moral and social behaviour likely to facilitate achievement in the 'world of work'" (ibid: 134).

Despite the dual system's strengths it faces various challenges and critiques. Among the challenges include lack of enough apprenticeship training places for young people in the firms resulting from economic stringency causing businesses to fail to take on apprentices. Also stakeholders' perception that the system is slow in adjusting to rapid changes in the composition of labour markets and industries, resulting in ill-equipped young people vying to enter "an increasingly competitive labour market" (Cockrill and Scott, 1997: 343).

Recent political debates in Germany have considered the possibility of integrating general and vocational education (ibid). It is believed that the integration may bring about effective social reform, more social justice, more social mobility, more equality of opportunity among pupils as future workers who are politically and

socially active, which in turn would help to create a humane society (Cockrill and Scott, 1997). The arrival of a Single European Market undoubtedly required education which could expand the learner's perspectives, unlike the current vocational education which is confined to a narrow and limited sphere of activities (ibid).

The need to redress the dual system's pitfalls was seen in 1997 when Germany introduced and started to implement "a new curricular framework for vocational education and training (VET) schools" formerly known as learning fields/areas (Bauer and Przygodda, 2003: 22). The learning areas are "thematic units that are defined by targets, content, teaching time specification and the performance of professional tasks and actions" (KMK, 2000, quoted in Mulder *et al.*, 2007: 74). This framework requires vocational curricula to be described in terms of competences with contents adjusted to relate to work and business processes. The framework was introduced as a way to close the gap between theory and practice in the contexts of education (the move from curricula designed on subjects to curricula designed on the interconnections between subjects) and the workplace (the move from matching subjects to aspects of work to modeling curricula on work processes). The introduction of the learning areas concept was seen as a paradigm shift since earlier curricula were traditionally "organised according to disciplines" (Bauer and Przygodda, 2003: 22). The Germany's approach of modeling curricula on work processes rather than matching subjects to aspects of work practiced in the UK (England) explains why the Germany approach to CBE differs significantly from the UK approach.

The "approach to the theory of learning areas is generally well received"; however, there are some criticisms over this approach (Mulder *et al.*, 2007: 74). It is argued, among others, that the learning areas concept is likely to mitigate the order of knowledge that was strongly provided by 'subjects', and there is a likelihood of neglecting the educational meaning of vocational schools by too narrowly concentrating on professional activities. Further concern on the approach is that "the examinations in VET, for which the social partners within the economy are responsible, are focused exclusively on knowledge and skills but not on competence" (Dubs, 2000, quoted in Mulder *et al.*, 2007: 75). It is also

claimed that “teachers at vocational schools have problems identifying the main ideas of the learning area approach” due to lack of adequate definitions, adequate time and support to prepare the learning area concept before implementation (ibid: 75).

South Africa

In South Africa CBE, most recently reframed as outcomes-based education (OBE), traces its origins in “the competency debates followed in Australia and New Zealand” (Christie, 1995; quoted in Jansen, 1998: 322). The debates promulgated a CBET development dialogue “in the Congress of South African Trade Unions (COSATU)” during the education policy reforms in South African schools since 1994. It was later picked-up by the National Training Board, and “subsequently, crystallised in the National Qualifications Framework (NQF)” (Jansen, 1998: 322). The South African Qualifications Authority (SAQA) Act of 1995 regards OBE “as a means of addressing inequalities in learning across different racial groups” (Chisholm, 2007: 297). The debates within NQF “formed part of a larger effort to address unemployment through regulating the labour market and process of skills acquisition through transforming the fiscal, institutional and legislative framework within which institutions operate” (Chisholm, 2007: 297).

The introduction of OBE in South Africa had an implied intention of emancipating the majority of learners formerly typically ill-served by the past South African education system. It was conceived that “doors of opportunity may be opened for people whose academic or career paths had been blocked” (Van Wyk and Mothata, 1998: 4). It intended to democratise education and eliminate inequalities in the post-apartheid education system, whose curriculum featured “racially offensive and outdated content” (Jansen, 1998: 321), and under which “education was a site of contestation” (Enslin and Pendlebury, 1998: 262).

Jansen confirms that despite several educational reforms in the post-apartheid education system way back in 1994 during the South Africa’s first national democratic elections, OBE is “the most ambitious curriculum policy since the installation of a Government of National Unity” in 1994 (Jansen, 1998: 321). This

approach to education later underpinned the new Curriculum 2005 developed with technical support from Scotland and Australia, launched in March 1997, and officially started to be implemented in January 1998 (ibid: 321). The new Curriculum 2005 aims at reconstructing and developing all spheres of public life and enabling “conditions for a flourishing democracy” (Enslin and Pendlebury, 1998: 262). The move envisages that “teaching and learning according to the tenets of OBE will replace the all too ubiquitous pedagogical style of rote learning under apartheid”, and “address the legacy of apartheid education by encouraging the development of skills throughout the school-leaving population” (Mason, 1999: 137) with an intent to “improve the preparation of South Africa’s workforce for participation in an increasingly competitive global economy” (ibid: 137).

The South African OBE inherited the American competency-based teacher education (CBTE) perspectives with its emphasis on learner performance and individualised instruction (Schwarz and Cavener, 1994). Despite stated benefits, traditional OBE received criticism from various writers (Capper and Jamison, 1993; Stewart and Hamlin, 1995; Biemans *et al.*, 2004) that it accentuates predictable and measurable learner performance confined to the classroom and school context, which learners may fail to demonstrate in real-life or work situations other than the streamlined “time-frame of schooling” (Capper and Jamison, 1993: 429).

Traditional OBE limitations necessitated the emergence of transitional OBE and transformational OBE (ibid). Transitional OBE focuses on learners attaining “higher order” exit outcomes which emphasise broad attitudinal, affective, motivational and relational competences, as well as the acquisition of critical thinking, effective communication, technological applications and complex problem solving skills; whereas transformational OBE aims to equip learners with knowledge, competence, and orientations needed for success after they leave school (ibid: 429). Jansen affirms that OBE “is being driven in the first instance by political imperatives which have little to do with the realities of classroom life” (Jansen, 1998: 323); and is thus unlikely to thrive. He asserts that “the language of OBE and its associated structures are simply too complex and inaccessible for most teachers to give these policies meaning through their classroom practices”

(ibid: 323). Manson echoes the same claim that for OBE to thrive, schools and classrooms ought “to be driven, albeit in the face of very scarce resources, by the people running those schools and classrooms” (Mason, 1999: 140). Thus, suggesting the need for the policy to put in place a system for teachers’ development, including the availability of a fiscal base for provision of properly trained teachers, and teaching and learning resources, among others before OBE was operational (Jansen, 1998; Chisholm, 2007; Allais, 2012).

Inclusion of the South Africa case in this national review is important both because of the African context and because it is among “the early starter countries” (Young, 2011: 224). It is also the only country whose NQF and the concept of competence were connected with liberation (Jansen, 1998; Enslin and Pendlebury, 1998; Chisholm, 2007), which Young calls “a break with the past” (Young, 2005: 1). As Allais argues, the introduction of the NQF in South Africa in 1995 was “as an ambitious attempt to address the educational, social, and economic problems caused by apartheid” (Allais, 2010: 34). Allais further argues that after overthrowing “apartheid, the most notorious system of racial oppression ever known”, it was felt and “believed to be a unique opportunity to create things anew, to build a new society, to make real and meaningful changes” (Allais, 2014: xii); a strategy which Young categorised as more overtly political purpose “for achieving redress and overcoming the inequalities of the past” (Young, 2005: 6). This led to South Africa responding “with a flurry of policy development” that saw the introduction of NQF and CBET in the country (ibid: xii-xiii).

Although the introduction of CBET in the reviewed nations shows global trends, Tanzania is my main case and arguably the case nearest to it is South Africa which is in the same continent and shares to a degree a left approach to politics. While South Africa has a much more advanced economy than Tanzania, it has worked with features connected to liberation and therefore the debates there were finally more relevant to Tanzania which experienced similar an education policy movement soon after independence in 1961 whose echoes are still relevant to date as will be discussed under the historical development in Tanzania in later chapters. Also, as observed by Young, the fact that South Africa “made avoidable mistakes in the process of implementation” like other

Early Starter countries (England, Scotland, New Zealand, and Australia) the South African's CBET experience in this study is expected to reveal "some of the problems they came up against" (Young, 2011: 224). Thus, I argue that South Africa is a good example since it has the critics and CBET trajectories characterised by extensive debates led by intellectuals in the area, which are relevant to the Tanzanian context.

Summary of contextual literature work and CBET systems

Discussion in this chapter has indicated that there are different factors that appear to be at work in these national cases. It is evident that some systems were dominated by market forces, a top-down state, and neo-liberal interpretations. These factors were much more associated with the Anglo-phone model and behaviourist approaches in nations such as USA, England, and Australia, in which educational ideas were drawn into the justification of qualifications frameworks and learning outcomes claimed as "a new idea, even a 'new learning paradigm'" (Allais, 2014: 29) associated with the concept of competence. A similar orientation is evident in South Africa, though later on it took a different political direction – a liberation movement. Social partnership interpretations are evident in Germany and the Netherlands which have more developed social partnership systems.

The interpretations draw on "the experience of social and economic restructuring" in these nations as a result of "global transformation" (Brown, 1992: 286). They as well draw on pertinent "specific historical, social, economic and political conditions" which bring about complex social economic changes involving "a process of globalization, especially of economic markets" (ibid: 286). Over time, globalisation forces coupled with the "pace of technological change and the revolution in communications" (ibid: 286) enabled mass production of standardised goods in these nations. These necessitated "an increased demand for 'flexibility' in the way labour power is used and in the way organisations are structured" which Brown terms "a shift from Fordism to Post-Fordism" (ibid: 286) in which economy, competition and production process; labour; politics and lifestyle are believed to be "the main dimensions and trends" involved in the shift (ibid: 286). However, each nation seems to be responding to these challenges in

different ways for instance making “choices between trying to adapt the rigid hierarchical divisions of labour, and the low skill and low trust relationships which characterise 'Fordist' societies” (Brown and Lauder, 1991: 3) to new conditions, or shifting to systems of flexible production and organisation based on flatter hierarchies, adaptable and highly skilled workers, and a breakdown of the divisions which currently exist between mental and manual labour and learning” (ibid: 4). These aspirations were expected to be realised through education which is regarded as “vital for the achievement of a competitive economic advantage in a global market” (Brown, 1992: 289). Thus, from the industrialisation and urbanisation era to current ‘new times’ (Carter, 1997; Brehony and Deem, 2005) there has been a tremendous “need for new forms of social control, new manufacturing methods, and new social and economic arrangements” (Brown, 1992: 291) with belief vested in education and training for their realisation which resulted to the concept of competence and contingent approaches.

In terms of developing NQFs (the qualifications structures that contain competence-based awards), the six nations were “early starters” (Young, 2011: 224) and exercised a significant influence on international thinking about the concept of competence. However, because of different influences such as global economies and policies, markets, and global technology which acted as external factors; as well as internal national political, social and economic factors, some of these influences were more dominant than others, and consequently gave rise to different approaches. This is explained in Chapter 3 that develops a theoretical framework to help explain national variations and the factors which may have had an influence on the Tanzanian system as a result of visits to these countries (with the exception of South Africa⁷).

⁷Despite the South Africa case being interesting for Tanzania, my experience as a leading NACTE official is that, it was not part of a major policy borrowing for Tanzania because by the time Tanzania embarked on CBET there were CBET opponents' debates taking place in South Africa; so the pioneers decided that it was worthy going somewhere else. However, Tanzania enjoyed a consultant expertise on DACUM process from South Africa during preliminary stages of CBET curriculum development.

CHAPTER 3: THEORETICAL FRAMEWORK

Introduction

The previous chapter has highlighted the origins of CBET and various approaches afforded to the concept of competence in different nations. According to Mulder and colleagues, the first use of the concept occurs in the work of Plato 380 BC (Mulder *et al.*, 2007). They affirm that other languages like Greek and Latin had an equivalent for competence. They confirm that the concept of competence was already recognised in English, French and Dutch by the sixteenth century. Although the concept of competence appears to have been an aspiration throughout the ages, institutionalised use of competence in the development of vocational education is a recent phenomenon and appears to be inter-mingled with other innovations (*ibid*).

However, in some contexts literatures have shown indiscriminate usage of the terms competence and competency. Indiscriminate usage of the two terms was also echoed by Halász and Michel observing that “in many countries, it is difficult to make a clear distinction between skills and competences or competencies” (Halász and Michel, 2011: 291). They assert that “in the field of vocational education and training (VET) and professional qualifications....certain distinctions [between the terms] are more commonly accepted” (*ibid*: 292). Competence is defined as “the ability to apply learning outcomes adequately in a defined context (education, work, personal or professional development)” (CEDEFOP, 2008: 47; Halász and Michel, 2011: 292). CEDEFOP affirm that “competence is not limited to cognitive elements (involving the use of theory, concepts or tacit knowledge); it also encompasses functional aspects (involving technical skills) as well as interpersonal attributes (e.g. social or organisational skills) and ethical values” (2008: 47; Halász and Michel, 2011).

However “according to ILO standards, competency is a more specific ability that can be observed in performing an action in a given context and producing a set outcome” (Halász and Michel, 2011: 292). Competency is thus defined as the behaviours (personal attributes) that individuals must have, or must acquire, to perform effectively at work. Hence, competence is a broader concept that

encompasses demonstrable performance outputs as well as behaviour inputs; which Halász and Michel affirm to encompass “knowledge, competencies, skills, abilities, capacities, attitudes, values, attributes and qualities” (ibid: 292). This study uses ‘competence’, except for specific examples where ‘competency’ is the preferred term used by the authors of a cited or referred journal, book or report in a particular national context.

This chapter proceeds to discuss different approaches afforded to the notion of competence and the current direction of CBET and national trajectories and later develops a theoretical framework to map the national trajectories of development.

Competence approaches

Since World War II, three main traditions can be distinguished in competence research (Norris, 1991; Eraut, 1994): *the behaviourist*, *the generic* and *the cognitive*; and more recently the *social-constructive approach* (Mulder *et al.*, 2007; Gonczi, 1994; Dall’Alba and Sandberg, 1992). The four identified competence approaches have exercised considerable influence on the national trajectories of development.

Ertmer and Newby observe that “learning is a complex process that has generated numerous interpretations and theories of how it is effectively accomplished” (1993: 51). They assert that the way learning is defined and the belief about the way it occurs has significant “implications for situations in which we want to facilitate changes in what people know and/ or do” (ibid: 50). They affirm that different positions of learning such as behavioural, cognitive and constructivist provide instructional designers with “structured foundations for planning and conducting instructional design activities” (ibid: 50).

The behaviourist approach

The behaviourism, principally associated with the work of Thorndike (1913) and Pavlov (1927), is confirmed by literatures (Pritchard, 2010; Ertmer and Newby, 1993; Wu *et al.*, 2012) to be among the first developed learning theories. The behaviourist approach considers learning to be produced by stimulation and reinforcement. In the behaviourist view learning is “shaped by serially structured

sequences that model, establish and reinforce the relevant associations in the mind of the learner through review and practice combined with feedback on his or her performance against explicit criteria” (Leung, 2003: 503; Atkins, 1993). According to Pritchard (2010) behaviourism emphasises a concern with overt observable behaviour and is based on observable changes in behaviour. It assumes that learning is manifested by a change in behaviour, which is also shaped by the environment. It focuses on a new behaviour pattern being repeated until it becomes automatic, including the use of instructional cues, practice, and reinforcement. The key elements in the learning process are the stimulus, the response, and the association between the two. Learning involves discrimination (recalling facts), generalisation (defining and illustrating concepts), association (applying explanations) and chaining (automatically performing a specified procedure). Therefore, behavioural orientation’s emphasis is on promoting a student’s overt performance by the manipulation of stimulus material. The behaviourist approach to competence derives its characteristics from the influence of behavioural psychology.

Review of the six nations reveals that the *behaviourist* approach “focused around the slogan of competency-based training” (Eraut, 1994: 169), that stresses the importance of “observing successful and effective job performers and determining what differentiates them from their less successful counterparts” (Mulder *et al.*, 2007: 69). Under the behaviourist approach, competences are acquired through training and development (McClelland, 1998) and based on the description of observable behaviour or performance *in situ*. Behavioural approach characteristics include demonstration, observation and assessment of behaviour; where competences are the characteristics of a person fulfilling that performance in an activity.

The behaviourist model envisages the “employee as largely passive, and as oriented towards the demonstration of prescribed competencies, or ‘skills’, presumed necessary to perform functions as specified by employers” (Brockmann *et al.*, 2008b: 552). It tends to be loosely linked to curricula, and competence acknowledgment is attached to the ability to demonstrate performance to the required standards. Typically, “theoretical knowledge is not

assessed separately, but, where it is thought to be relevant is assumed to be reflected in the successful performance of the task” (Brockmann *et al.*, 2008a: 236). This could be seen as a one dimensional approach to ‘competences’ where they are narrowly conceived as ‘skills’ (Clarke and Herrmann, 2007; Winning, 1993). Biemans and colleagues argue that this approach leads to “routinised job descriptions, in which the proactive and reflective worker is left out” (Biemans *et al.*, 2004: 527). The concern is that “there may be a danger in narrowing the training to teaching/assessing technical competencies only” (Thomson, 1990: 179). Thomson affirms that “other skills such as communications, group techniques, and problem-solving are important workplace skills” (ibid: 179).

The generic approach

The generic approach developed from ideas in cognitive science. It assumes that the human mind operates like a computer programme and, therefore, the key educational task is to support people to learn how to process information since this is a generic skill that cuts across all forms of workplace activity. The approach is concerned with identifying common abilities that explain variations in performance (Mulder *et al.*, 2007). It “concentrates on the underlying attributes, e.g. knowledge or critical thinking capacity, which provide the basis for transferable or more specific attributes” (Gonczi, 1994: 29). Herein “competencies are thought of as general attributes, ignoring the context in which they might be applied” (ibid: 29). An example of general attributes of competence may be illustrated by: “asking students to undertake problem-solving tasks, which might be more effectively performed in a workplace setting” (Velde, 1999: 440). Competence, in this sense, is more about framing an overall performance that is appropriate to a particular context (Velde, 1999), which may be unattainable in a real work context or when a work context changes (Hager, 1994). Opponents of the generic approach contend that there is a lack of evidence of the existence of such generic competencies, and they thus doubt the viability of ‘transferability’; the decontextualising of competence; and its abstraction from concrete situations in which skills are actually performed (Gonczi, 1994).

Bates criticises the competence movement for favouring an increasing use of performance criteria to manage and measure organisational and individual performance as “the arrival of competence-based pedagogy” which leads to “a surfacing in education of deeper changes in structures and processes of social control over work, education and training and as a means of synchronising these historically separate spheres (1997: 6). Background literature research on the six nations has suggested that some more recent attempts have been made to combine behaviourist and generic approaches to create more holistic and integrated descriptions in the form of combinations of knowledge, skills and attitudes (Tovey, 1993).

Cognitivism and the integrated approach

Cognitivism emerged in the late 1950s when learning theory “began to make a shift away from the use of behavioural models to an approach that relied on learning theories and models from the cognitive sciences” (Ertmer and Newby, 1993: 56). Cognitive theories stress more complex cognitive processes such as thinking, problem solving, language, concept formation and information processing. They “focus on the conceptualization of students’ learning processes and address the issues of how information is received, organized, stored, and retrieved by the mind”; thus the emphasis is on promoting mental processing (ibid: 57). Cognitivists do not place much emphasis on environmental conditions and instructional components alone to account for all the learning that has taken place, rather they consider other factors, for instance learners’ thoughts, beliefs, attitudes, and values to be powerful in the learning process (Ertmer and Newby, 1993). Cognitivism provides an explanation of the process of learning, and advocates learning in the context of working on specific problems. The cognitivist approach requires learners initially to have certain amount of declarative knowledge of a particular domain before proceeding to problem-solving. Moreover, it “recommends explication and modeling of the appropriate problem-solving structure and of the procedures or strategies entailed. Because of the emphasis on mental structures, cognitive theories are usually considered more appropriate for explaining complex forms of learning than are those of a more behavioural perspective” (Leung, 2003: 503).

The integrated approach varies according to its national origins - in Australia it was the result of a combination of behaviourism and cognitivism (Gonczi, 1990; 1994) and in Sweden it emerged from a combination of cognitivism and socio-culturalism (Dall'Alba and Sandberg, 1992). In an *integrated* approach “competence is conceptualised in terms of knowledge, abilities, skills and attitudes displayed in the context of a carefully chosen set of realistic professional tasks (intentional actions) which are at an appropriate level of generality” (Hager, 1994: 10).

However, Gonczi and colleagues (1990) and Gonczi (1994) still criticise the *integrated* approach arguing that it continues to conceive competence from an individual-orientated approach. They argue that by assessing knowledge, skills and attitudes due attention is not given to the meaning of the task for the students, the teamwork which may be necessary to complete it or to the students' prior experience. This is confirmed by Dall'Alba and Sandberg who argue that it is a fallacy to assume “that individuals and tasks can be separated and described independently of each other when identifying competence” (1992: 3). Critics argue that the approach neglects “the social and political dimensions of the construction of competence and [treats] the process as a purely technical matter” (Eraut, 1994: 169).

The social-constructive approach

The social-constructive approach which is the least developed and written about, and, arguably, the least influential on national trajectories of development is a mix of cognitive (processing) and constructivist (meaning-making) ideas about learning. Constructivism is rooted in the premise that we all construct our own perspective of the world through individual experiences and schema. “Constructivism considers learning to be an active, constructive process” (Wu *et al.*, 2012: 267). Constructivists view the learner as an information constructor who creates her/his meaning of knowledge; thus as more than just an active processor of information (Pritchard, 2010). The constructivist approach is more learner-centred. It focuses “very strongly on the resilience of the learner's beliefs and the social construction of reality” (Osborne, 1996: 54). Constructivism is “considered to be an extension of cognitivism characterised by discovery and

experiential learning whereby learners learn best what they discover or can be led to discover for themselves” (Leung, 2003: 503). Constructivism focuses on creating authentic problems within authentic environments for learning that correspond to the real world so that learners build personal interpretations of the world based on individual experiences and interactions with those environments (Ertmer and Newby, 1993; Leung, 2003). Leung affirms that cognitive apprenticeship, anchored instruction, problem-based learning and case method which are the four constructive learning approaches “can all be categorised under constructivism, since they all emphasise the importance of situating instructions in meaningful contexts in which learners approach tasks with some prior knowledge and expectations based on their knowledge of the context around them” (Leung, 2003: 504).

Mulder and colleagues (2007) confirm that presently the competence concept has been categorically expanded to encompass ‘social’ or ‘emotional’ competences, in which a *social-constructive approach* is advocated. They write that:

the social-constructive approach stresses the similarity between the competences needed for successful performance in society (such as learning competence, cooperation, problem-solving, information processing, coping with uncertainty, decision-making based on incomplete information, risk assessment) and collaborative competence development (as a synonym of social-constructive learning) (Mulder *et al.*, 2007: 70).

Citing the work of Hodkinson and Issitt (1995) on the social-constructive approach, Mulder and colleagues underline essential aspects of effective use of competences in education “such as the great importance of mentoring, the continuous dialogue between student and mentor, the necessity of performance in practice as well as the multidisciplinary tasks the student has to cope with” (ibid: 70).

Summary of competence approaches

It is evident from the background international literature review that competence has a history; it is international and it takes different forms

depending on the various national contexts. The review has revealed that amidst the globalised nature of competence that had spread out from the Anglo-phone countries, varieties of competence approaches had emerged over the past 30 years. Each competence approach in every national system is not fixed or permanent; rather it has a temporal dimension as a result of globalisation and technological advancements which demand improved skill formation strategies to cope with economic competitiveness. The temporal nature of competence approaches, notwithstanding, the behaviourist approach is found to be dominant in reviewed national contexts. The temporal dimension of competence sets CBET in particular trajectory as dictated by either task-based, holistic production, marketised or social partnership approaches discussed in the subsequent sections of this chapter.

Current direction of CBET and national trajectories

Across European countries, there are currently policy debates on employability, lifelong learning and competence-based approaches. These debates suggest a convergence of VET approaches, and have led to the creation of a European Qualifications Framework. However, there are also significant differences among the European countries regarding understandings and meanings of the terms under debates. These “meanings are deeply rooted in the countries’ institutional structures and labour processes and still inform national debates and policies today” (Brockmann *et al.*, 2008a: 547).

Literatures reveal significant criticism regarding understandings and meanings of the term competence and CBET and that there is need to develop ‘meta-competences’ that may assist in the development of other competences such as “communication, problem-solving and analytical capacities” (Brundrett, 2000: 364); including “reflective knowing” (Barnett, 1994: 179-180). They affirm the need to integrate these competences within a framework of an “overlapping sets of values which underpin ethical issues encountered in the workplace” (Brundrett, 2000: 364; Eraut, 1994; Cheetham and Chivers, 1996). Other writers conceded that the “market world is rather more rich than the simplifying assumptions of the formal competence movement allow for” (Burgoyne, 1993: 12, quoted in

Brundrett, 2000: 362). Writing on the competence movement Barnett affirmed that:

Against the know-how of operational competence and the know-that of academic competence, an epistemology orientated towards the life-world is that of reflective knowing. This is an epistemology which treats knowing seriously and sceptically: its central motivation is double-barrelled, to embrace knowing but also to query it (1994: 179-180).

Other writers have declared that “competency can be developed”, however such schemes must be offered in ways that are not typical of today’s organisation, and must engage people with various learning styles and incorporate ‘pluralism’ (Boyatzis *et al.*, 1996: 26, quoted in Brundrett, 2000: 363).

The background literatures reveal that the position of CBET in individual nations is not static. It is constantly improving to accommodate respective nation’s economic, social and technological advancements influenced by various internal and external phenomena as shown in Fig. 3.1. Despite similar purposes for CBET introduction in respective nations - that of provision of competences demanded by the labour market, among others, different countries exhibit diverse meanings and implementation environments. This leads to its continued change as it responds to various demands constantly imposed on it from unstable internal and external environments. The demands result from changes in national priorities, targets and funding, as well as external policies and requirements such as those brought about by the varied European Union (EU) protocols to EU member states, and to countries under the Organisation for Economic Co-operation and Development (OECD).

External and internal factors influencing the notion of competence

The factors impacting CBET in particular contexts are mediated differently by the policy makers in the six nations. Policy makers whom we might see as translators of policy and their actions on CBET are influenced by their varied “interest in the outcome of education” (Allais *et al.*, 2009: 98). Thus, “as local traditions and influences merge with global trends” (Priestley, 2002: 122) the

mediation process by translators within the system brings about CBET transformation and consequent trajectory as it tries to accommodate these influences. Since the translators have a different “management style” that is “linked to the particular features” of interest to CBET (Steer *et al.*, 2007: 187), the resulting mediation process may impact CBET “in particular ways” (ibid: 178) causing it to traverse a particular trajectory (Fig. 3.2, and Table. 3.1). As CBET continues to respond to imposed demands within dissimilar environments in which it functions, such as broader and potential markets, existing economic opportunities, strong community bases, sound “cultural and social attitudes” (Spours *et al.*, 2007: 195), and resources, it changes its position in order to provide the required skills and competences demanded by the labour market.

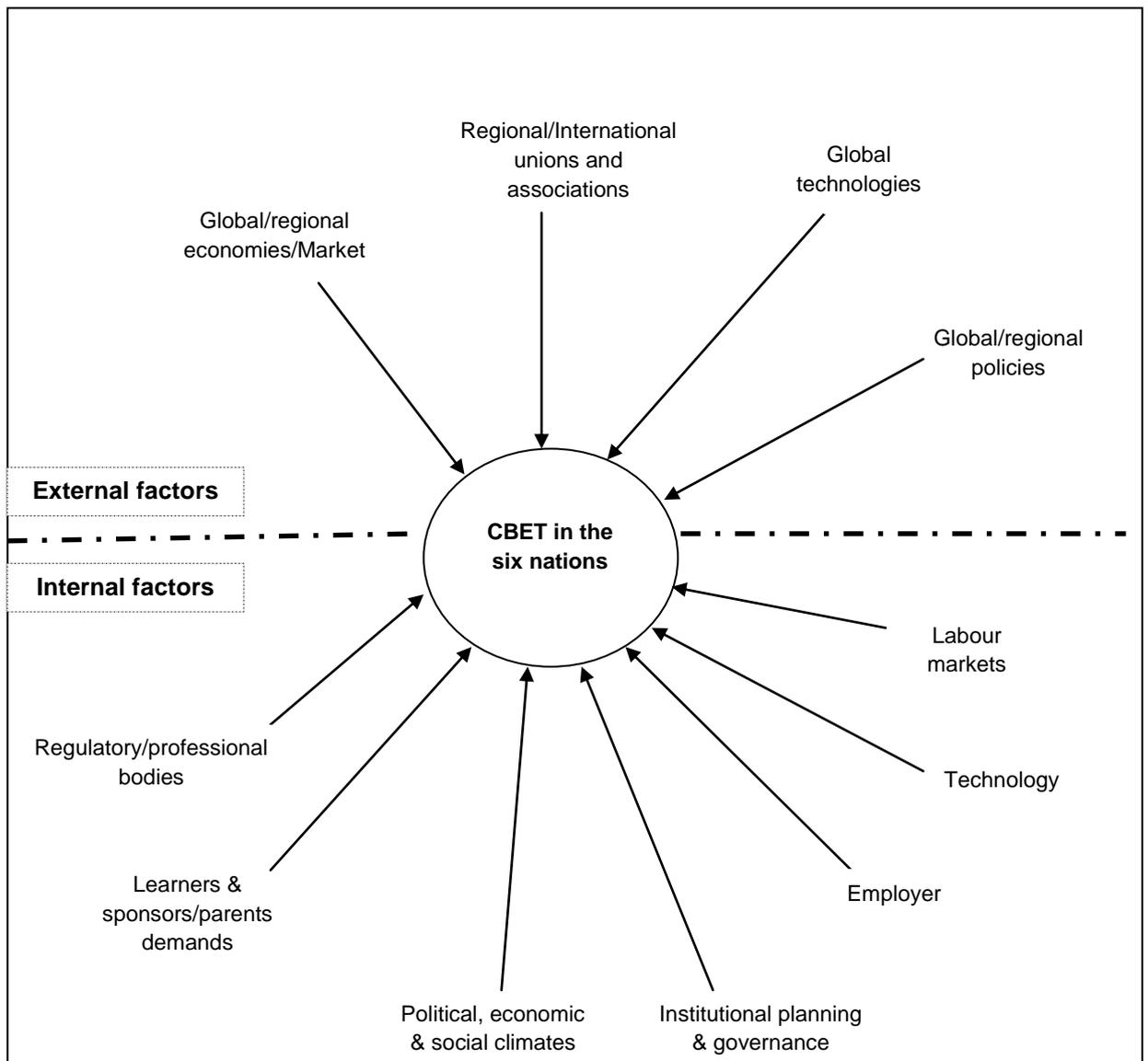


Figure 3. 1 External and internal factors influencing CBET debates and the notion of competence in the six nations

The factors found to have major influences on CBET debates and the notion of competence from the background literature research are highlighted in Figure 3.1, and are broadly grouped into two sets of influences: *external factors* and *internal factors*. Four external and seven internal factors have been identified. The external and internal factors could be characterised as parts of more globalised economies and national networking. The external factors are fundamentally due to the influences of globalisation and international policies. The internal factors or the national factors are the ones that mediate the external factors. The global trends are always mediated by certain forces and over time lead to different outcomes, different problems, and different configurations. The external forces such as the Organisation for Economic Co-operation and Development (OECD), Programme for International Student Assessment (PISA), Education for All (EFA), and EU protocols, may sometimes lead to Government sentiments to change (CASE-Network, 2009). Thus, taken together external and internal factors are regarded as the shaping forces for the notion of competence and CBET movement in each individual country.

External factors

Global/regional economies/Markets

Debates revealed that this factor comes with unprecedented challenges which subject the CBET system to pressure to encourage the production of skilled and competent “workforce for participation in an increasingly competitive global economy” (Mason, 1999: 137).

Regional/International unions and associations

The debate on the notion of competence was much influenced by regional, and international unions, and associations’ initiatives. For instance, the EU movement on Key Competences and the EU Qualifications Framework; OECD countries’ movements on competences; and the dialogue within Congress of South African Trade Unions (COSATU) on CBET development (Jansen, 1998) shaped the debates profoundly. Literatures have shown that as a result of the movement there resulted a desire for the notion of competence to become much broader to include “*all individuals need for personal fulfillment and development,*

active citizenship, social inclusion and employment" (CASE Network, 2009: 12: emphasis in original; Mulder *et al.*, 2007) which is yet to be adequately fulfilled.

Global technologies

Debates under global technologies and global/regional economies/markets had a powerful influence. Most affirmed that the "global economy is empowered by technology and knowledge" where "information technologies are at the heart of the new processes driving wealth creation" (Moloi *et al.*, 2009: 289). So competence approaches had a challenge to address such requirements.

Global/regional policies

With the agenda, for example, of "creating in Europe by 2010 the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs, as well as greater social cohesion" (CASE Network, 2009: 24), this factor had enormous influences on education and training, including CBET systems within the member states. Also the UNESCO's Education for All (EFA) policy whose priorities "focused on improving educational access, quality, equity, efficiency and relevance" (Chisholm, 2007: 299; Ainscow and Miles, 2008) is a global policy which has had a notable influence on education as in the South African case (Chisholm, 2007: 299).

Internal factors

Regulatory/professional bodies

In most nations the regulatory and professional bodies (e.g. Teacher Training Agency (TTA) and the General Medical Council (GMC) in the UK which are professional bodies (Eynon and Wall, 2002); and NACTE a regulatory body for technical education and training in Tanzania) are responsible for ensuring that quality of production is guaranteed by CBET. Quality is "suitability for purpose" (Fitz-Gibbon, 1996: 3); "fitness for purpose" (Bush and Bell, 2002: 316), or the level of satisfaction with effectiveness of a provider institution to provide training conforming to standards and excellence demanded and contributed to by learners and other stakeholders (NACTE, 2003a). Thus, their influences on the overall CBET business were felt in respective nations.

Learners' and sponsors'/parents' demands

This group of stakeholders has sometimes had varied aspirations and expectations from the education and training systems, which resulted in a profound influence on the CBET debates. Some learners and parents aspired for a more practical oriented curriculum enabling the learner to perform tasks practically and to get engaged, believing practical engagements could reinforce teamwork spirit and build social and group culture (Brown and Lauder, 1996; Hodgson and Spours, 2012). In other countries some sponsors and employers supported CBET “as part of a clear strategy of business planning and assessment of internal skill requirements” (Bates, 1997: 6), thus challenging the system to produce competent trainees to realise value for money (Krönner, 2005; Ethiopia, 2008; URT, 2012).

Political, economic and social climates

This factor has had an immense influence on the competence debates. In the USA for example, we find social and political pressure over concern on low student achievement, poor quality of teacher training and high costs of education (McKenna, 1992). In England, the economic recession of the mid-1970s led to rising inflation and increasing unemployment levels that needed addressing (Bates, 1997). In Germany, vocational action competence was intended to enable an individual to be socially responsible and act professionally in societal and private situations (Weigel *et al.*, 2007); and the integration of general and vocational education to facilitate effective social reforms to create a humane society (Cockrill and Scott, 1997). In South Africa the main policy intentions were announced with the liberation movement (Van Wyk and Mothata, 1998) with a desire to democratise education and eliminate inequalities in the post-apartheid education system (Jansen, 1998; Enslin and Pendlebury, 1998).

Institutional planning and governance

National policies in different nations practising either a centralised system of governance “perpetuating the top-down managerialist approach to governance of public services” or a decentralised system with a bottom-up approach empowering regional and local levels (Hodgson and Spours, 2012: 194) influenced debates on the notion of competence. Different governance modes

had an influence on institutional planning which led to varied CBET implementation strategies and funding regimes. Literatures confirmed some tensions within national policies regarding issues concerned with the involvement of stakeholders from local to state levels (ibid) and the internal local capacity within the systems for effective planning and governance of CBET practices (Trood and Gale, 2001; Spours *et al.*, 2007).

Labour markets and Employers

Debates from all six nations indicated a strong desire for CBET to provide flexible learning opportunities to meet diverse labour markets demand. There were concerns regarding the way that labour market demands could be sufficiently articulated through dialogue with employers so that their provision could be enabled by CBET. However, respective contextual social and economic conditions shaped the orientation and debates on these two factors in different ways. The nations with strong market orientations previously favoured behaviourist and generic approaches to generate production; but those with strong social partnership arrangements appeared to prefer the integrated approach. Recently debates have shifted towards the social-constructive approach to the notion of competence, and the desire to provide an infrastructure for CBET systems that match the “rapid changes in the composition of labour markets and industries” (Cockrill and Scott, 1997: 344).

Technology

Technology was seen as changing very fast and also demanding highly skilled individuals. Debates took place on the appropriate approach to the notion of competence to assure availability of competent and adequately prepared graduates to cope with fast changing technologies. This was underscored by the current trend in economies to have a heavy reliance on “an organisation of work characterised by greater use of technology” (Brockmann *et al.*, 2008b: 549). Thus, debates concerned CBET responsiveness to produce the competent workforce to manage the “whole labour process and to deal with ‘risk’ and unpredictable situations” (ibid: 549).

Trajectory of CBET internationally over time

The kind of approach afforded to CBET within respective contexts leads to particular definition of the notion of competence and the consequent CBET trajectory. All the six nations started with a type of CBET which was characterised by behaviouristic approaches of the notion of competence, shown as *original model* in Fig. 3.2. Here, the emphasis was on individually performed tasks, and involved modeling learning outcomes based on behavioural objectives and structured in terms of observable student behaviours.

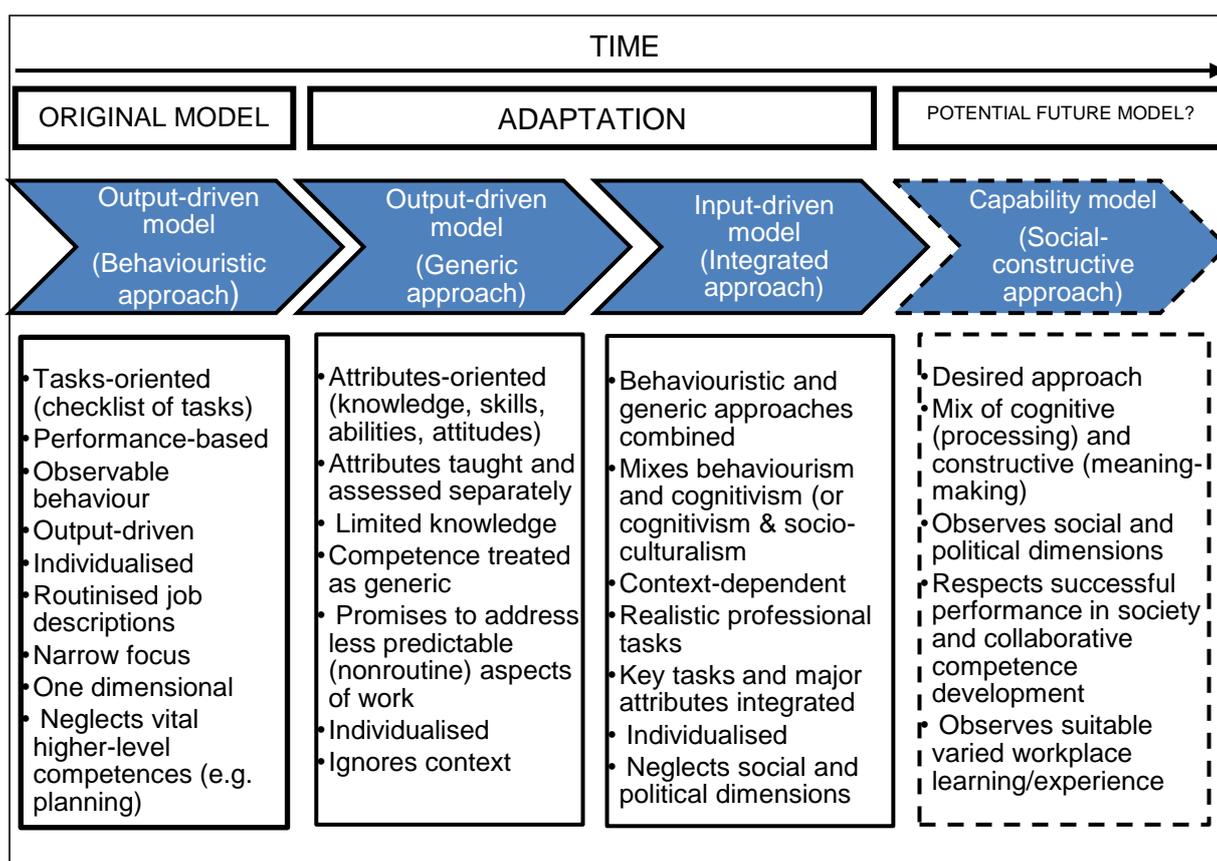


Figure 3. 2 Trajectory of CBET and the notion of competence for the six nations

The features of the original model of competence received many critics over time which led to adaptation in different national contexts first as the generic approach and later as the integrated (cognitive) approach to the notion of competence. I will argue that when ideas and conceptions change over time that alter the competence trajectory these are related to a range of external and internal factors as shown in Table. 3.1 and discussed in subsequent sections.

What happens is that not every system moves in the same way; however behaviourist model is still dominant. However, as internal and external factors interact over time, the notion of competence and the position of CBET are constantly redefined and repositioned. The debates in the reviewed nations indicated that there is another stage where the notion of competence is heading – the social dimension in which the notion of competence follows a social-constructive approach. This may still be a desire by many nations, and in Fig. 3.2 a question mark is put on the potential future model to denote this potential desire. There are important factors which affect the movement of the concept of competence and particularly those concerned with how production is viewed and whether a marketised or more collaborative approach to governance is followed.

Task-based and fragmented approach

The previous sections have revealed keen interest shown by the six nations in VET and how it could contribute to national competitiveness. In order to be competitive, each nation decided to adopt a particular national economic model. Before and during the era of industrial revolution in Europe, including USA, the nature of work in the industries and farms was typically manufacturing favouring performance of given tasks in discrete forms mostly typified by manual labour. Employees performed a limited range of tasks, which were mostly repetitive characterised by assembly of manufacture of a specific product.

During that period, the VET systems were tasks-oriented which supported behaviourist approaches to the notion of competence. However, the economic recession of 1980-81 which hit the industrialised world led to “the massive decline in manufacturing industry and the concomitant reduction in employment” in the English context for example (Williams and Raggatt, 1998: 280). Consequently, fundamental changes in the nature of work as well as in the employment patterns were evident which suggested the need for substantial improvements in skills training in terms of competence.

The growing impact of new technology during post-industrialism saw the service sector of the economy for instance in USA and England growing tremendously, increasingly replacing the manufacturing sector as the principal source of

employment; characterised by an economic shift that was “dependent upon ‘knowledge’ work, both in services and in the remnants of manufacturing industry” (ibid: 281; CASE-Network, 2009). The post-industrial era saw the emergence of the new markets and technologies extensively utilising information technology which required a workforce more skilled and highly educated to better support and perform a range of tasks in a process arrangement (CASE-Network, 2009). Thus, the trajectory of competence development slowly started to shift from a behaviourist to a generic approach.

Holistic (integrated) production-based approach

Literatures reveal three great transitions in the history of humanity - the *Neolithic Revolution* influenced by the development of agriculture around 6000 B.C, the *Industrial Revolution* in the 18th century, and the *third great revolution* variously known as ‘the information technology revolution’, ‘the information society’, or ‘the automation revolution’ (Prescott, 1991; Perkin, 1996; Lauder and Brown, 1996) which is mainly characterised by changes in the world of work due to vast technological advancements.

Post-industrialism provided the mechanization of production processes. During this period diverse models of production coupled with management models were developed (Thompson, 1998). The education and training systems were thus shaped to produce a mainly performance-based work-force (Edwards and Usher, 1997). The notion of competence during this period focused on enabling a trainee to perform given tasks at relatively higher levels of specification and sophistication following development in mechanization. Thus, the notion of competence started to be broadened from a behaviouristic to a generic approach. In the early days of the third revolution, there was an increased automation of the production processes which gave rise to new work and holistic production patterns (Perkin, 1996). This development demanded competent workers and competitive strategies for profit realisation and success (Brown, 1992; Brown and Lauder, 1991; Young, 2011; Carter, 1997). The debates on the notion of competence then shifted to the cognitive approach integrating behaviouristic and generic approaches but now with deeper elements of cognitive dimensions of learning.

Marketised approach

Advancement in holistic production sectors came along with unparalleled economic competitiveness that led the provision of education to be shaped by national economic models in practice. In the quest for national competitiveness, UK for instance adopted a deregulated and market-based system in which the *modus operandi* is more market-driven and naturally voluntarist (Upchurch, 1997). In the UK, even the provision of training is market and employer-driven with business interests being dominant (ibid). Conversely, in Germany the dual system model endorses a primacy of partnership between the school sector and the business sector, but with the business sector assuming the predominant role (Pritchard, 1992: 131). Thus, the debates on the notion of competence during this period dwelt on how education and training could trigger holistic production and markets for economic competitiveness. Thus, with modern societies emerging, the development of human abilities “focused on more abstract and generalised forms of knowledge” (Bates, 1997: 3), in which the trajectory of competence development moved to social-constructive approaches.

Social partnership and collaboration approach

Literatures revealed that within the six nations reviewed, and indeed within the European Union at large, there is much emphasis placed on social dialogue and partnership. This emphasis is informed by the clear resolve to improve market competitiveness while maintaining social solidarity. Literatures from European Union regard the relationship between vocational education and training and social partnership as key ingredients (EC, 1993; EC, 2001). Involvement of social partners into the decision making process appears vital for the country’s socio-economic development, and thus education and training is regarded as central in supporting employment policies and enabling stronger participation from social partners. Though there are differences between countries in terms of the scope of social dialogue, however, traditions of interest representation, social values regarding work and education have a significant impact on the socio-economic situation of the reviewed countries (CASE-Network, 2009).

Recent move towards social-constructive approach to the notion of competence is geared towards addressing the challenges of social partnerships in the

reviewed nations. With a strong move towards formation of a strong European Union (EU) from early 1990s, the impetus was to address many economic and social challenges in VET facing the EU's youth and old people. With the recent growing role of decentralized governance and institutional planning, social partnership is regarded as central in the planning process to ensure that local level interests are heard and respected by the state (Hodgson and Spours, 2012). Thus, the notion of competence had to be broadened to address the emerging trend.

Due to diverse things happening over time, the orientation of CBET trajectory in different nations also do change (Table. 3.1). The notion of competence and CBET along the *task-based and fragmented/holistic (integrated) production* continuum focuses on shaping and transforming the learner into an employee with the ability to perform given tasks according to the standards demanded by relevant occupational position. Emphasis on individually performed tasks was challenged in terms of learning, inclusion and social dimensions. With critics opposing the individual-orientated conception (Gonczi *et al.*, 1990; Gonczi, 1994) and favouring a socially and politically accommodative construction of competence (Eraut, 1994; Mulder *et al.*, 2007), the CBET trajectory along the continuum shifted to *marketised/social partnership and collaboration* continuum with nations relocating along the continuum depending on respective national contexts. For example, UK (England) and USA moving along *marketised* part of the continuum practising integrated approach with much influence from markets and holistic production forces. Germany and the Netherlands moving along *social partnership and collaboration* partly committed to integrated approach but influenced by holistic production and social partnership arrangements. Australia and South Africa repositioned along *task-based and fragmented/holistic (integrated) production* continuum involved with generic approaches of the notion of competence but much influenced by marketised and social partnership forces.

CBET trajectories along a number of continua

Previous sections have covered the six national cases, academic debates on the notion of competence and CBET and external and internal factors as one way of looking at the notion of competence and pertinent CBET debates. Globally there

has been a major shift towards integrated forms of production in which economic and technological advancement has become more complex. At the same time different ways of tackling them have been developed with some countries taking a more market led approach and others a more social partnership approach. However, these trends are not even globally due to contextual *economic production* (type and nature of the economy) and *policy production* (the nature of the state, institutions and policy-making processes).

Considering these diverse global (external) and national (internal) factors and the different ways each nation adopts to tackle them, I argue that another way of looking at how they influence and affect the trajectory of competence development and CBET in different countries may be by drawing on the concept of the expansive - restrictive continuum developed by Fuller and Unwin (2003; 2008) and built on by Raffe and Spours (2007) in relation to the development of apprenticeships in the UK, as well as Gustavsson and Ekberg (2014), O’Leary (2013), Taylor and Watt-Malcolm (2007), and Howieson *et al.* (1997) on restrictive/expansive approaches in similar systems. The various factors are presented in Table 3.1 in form of categories in the grids, which help to map and explain different ways developed by the countries to tackle the global and national influences. Given that expansive - restrictive concept will be applied in a new context and way in Tanzania, I have identified a range of relevant features for CBET in Tanzania and positioned them as expansive or restrictive as discussed in subsequent chapters and covered in detail in Chapter 7.

Table 3. 1 Trajectory of CBET along the continua for the six nations

Factors	Restrictive	Expansive
<i>External - globalisation and its adoption</i>		
Approach to economic governance	Liberalisation of the economy and marketisation	Social partnership and collaboration
Developments in economy and technology	Task-based and fragmented	Production-based and integrated

<i>Internal - local or national factors</i>		
System history and traditions	Weak social partnership	Strong social partnership
Debates in TVET	Narrow, behaviourist and lacking reflection and research	Critical, broader and with strong reflection and research
Forces of translation and mediation	Weak, under-resourced and fragmented	Greater human capacity, better resourced and collaborative

It should be noted that though categories in the grids portray a direct relationship amongst themselves in either restrictive or expansive mode, in reality, many phenomenon will be in a mixed or intermediate condition (combinations of dominant and subordinate features) in different national contexts. As it has been argued, competence-based systems have evolved over time and in different configurations in different countries. The systems appear to move along the restrictive/expansive continuum, but exhibiting varied characteristics depending on national contexts as shown by the various grids in Table 3.1.

The ‘historical journey’ of competence approaches based on observations of national cases in previous sections reveals that the ability of a system to progress along the continuum, for example, from *task-based and fragmented approach* towards *holistic production-based approach* (production-based and integrated); or *marketised approach* towards the more *social partnership approach* (social partnership and collaborative) end of the spectrum would depend on particular configurations of the factors. These can be dominant traditions such as the apprenticeship system in Germany based on social partnership. On the other hand, countries such as the UK have gradually developed a broader concept of competence because of internal criticism and debate.

I thus argue that countries achieve a particular trajectory or location on a continuum as a result of a configuration of a range of factors, which are illustrated

by a series of continua arranged in a grid as shown in Table 3.1. These dimensions could include – pressures from globalisation and responses to them; view of production and work (task and production); governance of the economy (marketisation/social partnership); debates and traditions; powers of mediating forces and state structures and so on.

Summary of discussion

Discussion on competence approaches and the national cases reveals three dimensions that contribute to a 'trajectory', that is the different perspectives that exist in dominant/subordinate combination in any national case; the effects of the passage of time, policy borrowing/learning and reactions to problems of early models; and the mediated effects of the type of economy and type of governance/politics.

Different views existing in dominant/subordinate combination in any national case

Different global and national influences led to diverse interpretations of competence which gave rise to various competence approaches over time. Although the behaviourist approach is seen to be the dominant interpretation when compared to the generic, integrated (cognitive) and social-constructive approaches, the literatures indicate that they existed in combination which led to less likelihood of there being a pure behaviourist approach. Over time the dominant approach was subjected to adaptations by incorporating some features of the subordinate approaches in order to become more durable. Moreover, the relationship and the nature of combination are affected by time because of emergent debates arising as a result of pressures from internal and external influences, as well as the global national context. These pressures saw the concept of competence becoming historically broadened in response to both new learning and reflection on practice, but again this happens in different ways in various national contexts, albeit with the process of policy borrowing like the case of South Africa in this research.

Passage of time, policy borrowing/learning and reactions to problems of early models

The reviewed Anglophone nations were early starters in the competence movement because of different influences that existed during and after 1980s (Allais, 2007; 2010; 2014; Young, 2005; 2007; 2011). Some influences were more dominant than others as a result of contextual societal, political formation and the type of economy which gave rise to different approaches to the notion of competence (Biemans *et al.*, 2009; Chisholm and Leyendecker, 2008; Weigel *et al.*, 2007; Wesselink *et al.*, 2007).

Effects of type of economy and type of governance/politics

Though the question of a dominant or subordinate model of competence in a particular context was a function of time which led to shifts or perhaps more preferences over time as a result of mediation and translation processes, the way each national system dealt with this is also a matter of political and ideological preferences for economic competitiveness. The variations mainly arise from the fact that each nation has its unique historical, economic, political and even social traditions, which in themselves are differently influenced by external and internal factors (Fig. 3.1) within a particular context. For instance markets and employer-driven characteristics in England and the USA with much emphasis on the primacy of business interests (CASE-Network, 2009; Weigel *et al.*, 2007; Mulder *et al.*, 2007), in which the Governments took an ancillary role via outlining skills development guidelines and giving autonomy to individual private initiatives. However, the Government's move on need to provide an enabling environment for stakeholders' participation through motivation and involvement brought in the notion of social partnership approach which led to a desire for CBET to traverse along marketised/social partnership continuum.

As for Germany, with its dual system "run on quasi-corporatist lines by state, employers and unions" (Upchurch, 1997: 193), characterised by a "system of collective bargaining", despite having marketised and holistic production oriented approaches, it "secures advantages through the school-based system of vocational education and its greater culture of training and skills development among employers" (ibid: 205). The German's social partnership approach has

less top-down imposition characterised by central planning operationalised through the welfare state (Billett and Seddon, 2004). The social partnership arrangement is also found in the Netherlands after VET institutions embarked on improving “links or connectivity between learning in school and learning in the workplace” (Wesselink *et al.*, 2010: 19). Thus, the CBET position in Germany and the Netherlands seems to traverse along marketised/social partnership continuum. In contrast, as a result of structural adjustments in Australia following “concerns for national uniformity and accountability” (Billett *et al.*, 1998: 78), the Australian CBT adopted “the integration of learning and human action” (Hager, 2004: 410) tracing social partnership arrangements, but within “a market-driven strategy for this provision” (Mulcahy, 2000: 260). For South Africa, the introduction of transitional OBE and transformational OBE with an emphasis on participation of various stakeholders resulted to social partnership approach “seeking to involve employers and trade unions working alongside government” (Upchurch, 1997: 194), and thus causing the CBET trajectory to traverse marketised/social partnership continuum. It is evident that the driving forces are sometimes influenced by time, and sometimes by global tendencies. The time component seems to produce more complex forms of production as a result of technological and economic development, however the way the nations actually construct the shifts or preferences to the notion of competence and CBET is exclusively a matter of political and ideological preferences. For example, complexity of holistic production processes and their organisation lead to state intervention in particular national context such as need for a well articulated Government, employers, and other social partners (Brockmann *et al.*, 2008a; Jessup, 1995; CASE-Network, 2009). This change of economic demand resulted in a shift from public to private in markets in some nations.

This analytical discussion illuminates the Tanzania case in this study. Tanzania has two very difficult problems: First, it is still a poor third world country and lacks resources from which to adequately address global influences and implement CBET. Second, it has a much embedded sense of history which is still dear to many people. Despite neo-liberalism the country is conscious of the Tanzanian way of doing things, and there is still what I call a strong political myth which is grafted to people as a result of echoes of Ujamaa and doctrines of the Founder

President of Tanzania *Mwalimu* Julius K. Nyerere. As detailed in subsequent chapters, these problems and others identified later are the pressures at work in Tanzania. These pressures reveal a very specific system for Tanzania which is still relying on certain forms of production such as mining and farming production while at the same time still having strong touch with social dimension. Thus, the global influences on the Tanzania CBET cannot be underestimated as they have implications for the appraisal to Tanzanian CBET as narrated in Chapter 4.

CHAPTER 4: IMPLICATIONS FOR TANZANIAN CBET

Background information about Tanzania

Tanzania currently has, according to the 2012 census, a total population of 44.9 million people. Out of this number, 43.6 million are from Tanzania Mainland and 1.3 million are from Zanzibar. Tanzania has a young population (0 – 14 years) of 19.7 million, and a youth population (15 – 35 years) of 15.6 million. The working age population (15 – 64 years) is 23.5 million in which 11.2 million are males and 12.3 million are females (URT, 2013). In order to employ such a young labour force, Tanzania has to have a growth rate of 6%+ annually.

Prior to independence from the UK in 1961 Tanzania maintained a racially-based and un-harmonised education system, operating under the 1927 Education Act, serving Europeans, Indians, Arabs, and Africans at divergent quality levels (EAC, 2011). By harmonised education system I mean a synchronised and standardised education system addressing emerging educational needs of entire society. This situation was not suitable for the country's socio-economic development. Consequently, immediately after independence, the Government enacted the Education Act of 1962 to regulate the provision of education in the country. The Act, which repealed and replaced the 1927 Education Act, laid the foundation for future harmonisation of the education system in post-independent Tanzania. It strongly emphasised the need for social partnership in education, and one of its main objectives was to make local authorities and communities responsible for the construction of primary schools and provision of primary education (Nyerere, 1967).

Since independence in 1961, Tanzania has been at war against its three development enemies - *ignorance*, *disease* and *poverty* - and has been struggling hard to eradicate them (Rutayuga, 2008). Education was seen as the popular intervention measure for the eradication of the country's development enemies (ibid). For education to bring about improved development in the country and better standards of living for citizenry, a number of interventions were initiated and implemented in the education sector. Notable changes in the education system which were fundamental and significant were brought about by

the introduction of the Arusha Declaration in 1967. The 1967 Arusha Declaration⁸ announced the philosophy of Education for Self-Reliance (ESR) to guide the planning and practice of education system in post-independence Tanzania (URT, 1967). The ESR policy focused on the weaknesses of the inherited colonial education system and recommended the need for curriculum reform in order to integrate theory and practice with a major aim to synchronise educational plans and practices for national development and the world of work. The ESR principal objective was to create an educational system that would enhance the quality of life of the population by improving their skills and knowledge and make them self-reliant, thus becoming capable of fighting the other two enemies - disease and poverty. ESR was built on the philosophy that regarded education and work as “inseparable parts of life” (URT, 1978a: 11); which Saunders affirms might be taken “as an example of the reconstruction of the relationship between work and education in these new realities” (Saunders, 2006: 13)

Consequently, between 1967 and the early 1980s as a result of the ESR policy several major changes were witnessed aimed at bringing harmonisation at the education system. Some of these included: the introduction of reforms in the school curricula in order to meet national needs and political aspirations within the context of a larger framework of Socialism (Ujamaa) and Self-Reliance stipulated in the Arusha Declaration; introduction of Universal Primary Education (UPE); introduction of post-primary technical centres (PPTCs) and multi-purpose Folk Development Colleges; integration of work and the education system; and diversification of secondary education to make it more relevant to the world of work (URT,1967).

In the early 1980s Tanzania “realised that the past development policies and strategies were not adequately responding to changing market and technological conditions in the regional and world economy and were also not adapting to changes in the domestic socio-economic conditions” (URT, 1999: 3). A decision was, therefore, taken to adopt socio-economic reforms to rectify the situation. To

⁸ The Arusha Declaration was a political blueprint to make Tanzania a socialist, and an economically independent country.

date the country has had various social and economic policies as intervention measures directed to education, other social welfare services and the environment for private investment in productive sectors in order to eradicate poverty both at national and individual levels to bring about improved social conditions (URT, 1999; URT, 2005).

In its endeavours to bringing about improved economic growth and poverty reduction, in 1996 the Government commissioned a study on the status of the 'education and training system' in the country. The study, among others, was asked to review the technical education and training (TET) system in Tanzania and to come-up with recommendations on how best the sector could be improved in order to address the concerns of employers, the community and industry in general regarding the unsatisfactory performance of technical education and training graduates in their fields of work. TET, which is the focus in this study, falls within the tertiary level of the educational band covering all studies and training activities occurring in non-university post-secondary institutions which lead to intermediate, professional and full professional qualifications (URT, 2002). Among the recommendations of the study was the need to establish a regulatory body as a quality assurance organ to oversee and regulate the overall provision of technical education and training in Tanzania (URT, 1996a; URT, 1996b; Brittain, 1997).

The 1996 technical education and training policy

Before the CBET idea was considered in Tanzania in the late 1990s, the Government had since independence in 1961, placed an emphasis on TET activities in the country's education system. However, no policy was in place to guide its further development. Absence of policy in the country, consequently "resulted to uncoordinated changes and falling standards in technical education and training" (URT, 1996a: 3). In order to remedy the situation, the Government urgently developed TET policy in 1996. The general objectives of the policy included, for example, to:

enable the country to attain adequate and acceptable levels in technical manpower requirements in different sectors of the economy [and to] ensure the

existence of an effective technical education and training system, which can address itself to present and future economic development requirements of the society (ibid: 4).

Following from that study, the 1996 TET policy stipulated the need to establish a regulatory body to oversee the development of TET in the country. In 1997 the Government created Act No. 9 that established the National Council for Technical Education (NACTE) to regulate and coordinate all TET matters (URT, 1997). One policy specific objective included ensuring “that, the national technical education and training standards match with international standard classification of occupation” (URT, 1996a: 5). The policy maintained that whilst “countries have boundaries, knowledge and skills have no boundaries” (ibid: 21). Thus, the policy underscored and encouraged the implementation of TET in co-operation with the broader international community (URT, 1996a).

External and internal factors influencing Tanzanian CBET

Implementation of the 1996 national TET policy initiated studies on the development of a national qualifications framework (NQF). In the late 1990s, key officials from the ministry responsible for education, NACTE, and some technical institutions had the opportunity of travelling abroad to learn about NQFs and their benefits. External countries which “became the magnet for policy pilgrimage” (Steiner-Khamsi, 2006: 672) included New Zealand, Australia, United Kingdom, Germany, and South Africa.

Major issues covered during the studies included NQFs, standards setting and quality assurance, development and implementation of competence-based curricula (NACTE, 2003b; NACTE, 2010). Also studies were conducted to International Labour Organisation (ILO) for work regarding labour market information, standards setting, job classifications and curriculum development (NACTE, 2010).

In view of increasing labour mobility in the region, regional visits were made to regional bodies such as the East African Community (EAC) and the Southern African Development Community (SADC). Lessons learnt from such endeavour

included issues related to the harmonisation of education and training programmes, NQFs, development of CBET programmes, assessment and certification, training of trainers, and exchange programmes for students and trainers (ibid).

In addition an internal analysis was done to assess the national environment in order to build on the local experiences to avoid duplication of efforts. Accordingly, some professional/regulatory bodies, employers, trade unions, and other stakeholders in the country were consulted for their experiences on various matters related to TET and CBET. Their experiences essentially drew from the influence of the 1967 Tanzania's philosophy of education for self-reliance (ESR).

The influence of the 1967 Tanzania's philosophy of education for self-reliance

The historical perspectives of the education system in Tanzania date back to colonial education whose purpose was motivated by a desire of the colonial masters "to inculcate the values of the colonial society and to train individuals for the service of the colonial state" (Nyerere, 1967a: 2). After independence in 1961 the education system sought "to create a socialist society which is based on three principles: equality and respect for human dignity; sharing of the resources which are produced by our efforts; work by everyone and exploitation by none" (ibid).

Historically, before the colonial era, life in Tanzanian indigenous societies was influenced by the traditions and cultures that existed before the coming of the Westerners. Despite various indigenous societies practising varied cultures, all "were based on tribal groupings consisting of clans" that "were to a great degree self-sufficient politically, economically and spiritually" (Cameron, 1980: 100). The traditions were graced with clear values and practices in terms of knowledge and skills that were respected and practiced by all. Cameron observes that "the sense of community was indeed very strong" (ibid: 101). Informal education was the type of education practised "reflecting the practices and values of the hunting, pastoral or agricultural economies or mixtures of them" (ibid: 100) that represented the social life of the communities. These forms of knowledge and skills were practically taught and passed on from adults to young individuals in

the manner of informal education, which I would term predominantly performance-based.

Tanzania was “exposed to Western and Arabic influences for almost 80 years prior to achieving independence in 1961” (Cameron, 1980: 100). Consequently, the informal education practised before the colonial rule was greatly affected, and the new education order with a different purpose took deep roots for an extended period of time such that the former performance-based education was brought into question and the existing communal institutions were overly influenced by Western values and cultures.

The Western domination’s influence on the indigenous beliefs, values, cultures and the way they viewed work and type of work performed had a profound bearing on communities and individuals, particularly young people. The domination affected the way they viewed traditional life and performance-based informal education tended for communal lives of hunting, pastoralist life styles, and agriculture. This continued until 1925 when, under Sir Donald Cameron the British Governor, British policy was changed “to foster indigenous organizations through the system of indirect rule” (Cameron, 1980: 104). Cameron posits that Sir Donald Cameron declared that:

our desire is to make [the indigenous] a good African, and we shall not achieve this if we destroy all the traditions, all the habits of the people...destroying everything that made the administration really in touch with the thoughts and customs of the people (ibid: 105).

It was from that time that the education system under the colonial era changed to embrace practical competence which had been also practised under informal education before the colonial invasion.

Politically, Tanzania favoured egalitarian doctrines. Soon after independence in 1961, Tanzania fought hard to reform the education system in order to change it from the severely criticised colonial education system. Through its ESR policy Tanzania attempted to re-orient the structure and content of the education

inherited from Britain to suit the country's particular needs and conditions. At the point of independence in 1961, Tanzania was following the "capitalist, private sector, market-led economy that was inherited from the colonial power" (Ngowi, 2009: 262). Soon after independence the country decided to follow socialist oriented economic and political policies. Consequently, Tanzania was politically declared to follow Ujamaa (i.e. a form of African socialism) policy, and thus abandon the capitalist policy. With the socialist policy orientation, the country decided to reform the inherited system of education by introducing ESR policy. The policy advocated the inculcation of certain basic social values including a sense of commitment to the total community, co-operative endeavour, concepts of equality and the responsibility to serve (Nyerere, 1967b; Kafyulilo *et al.*, 2012). The education system was, therefore, oriented towards an attempt to effect a self-reliant socialist society. This was facilitated by ESR policy with emphasis on productive work as an integral part of the curriculum to provide meaningful learning experience through integration of theory and practice. Thus, trying to help students become self-confident, co-operative, and develop critical and inquiring minds (Nyerere, 1967b).

Economically, both Mosha (2012) and Ngowi (2009) maintain that Tanzania passed through three major economic epochs. The first epoch was capitalist economy practiced from 1961-1967 where the major means of production was characterised by private ownership involving market-oriented economic practices. The second epoch was from 1967-1985. This epoch saw the political and economic landscape of Tanzania changing dramatically following the country's decision to embrace Ujamaa policy (Ngowi, 2009). The third epoch ranges from 1985-to-date which is characterised by the relatively free interplay of the market forces of supply and demand (Ngowi, 2009; Mosha, 2012).

Within these epochs, the country experienced a number of challenges. These included: market failures during the first epoch; failure by the Ujamaa policy to provide any incentive to the private sector enterprises which affected the country's economic development processes during the second epoch; and the third epoch which essentially embraced instituting major reforms to remedy the 1967 Arusha Declaration aftermath (Mosha, 2012; Ngowi, 2009). For successful

implementation of the reforms, investment in human capital in the form of education was imperative. Thus, various education and training policies (URT, 1996a; URT, 1997; URT, 2007b) were developed that demanded an appropriate curriculum to be put in place in order to produce the human resources required for the country's economic development; efforts which led to the introduction of CBET in Tanzania.

The outcomes of external and internal analysis

Studies conducted globally, regionally, and locally primarily paved the way for the establishment of a National Technical Qualifications Framework (NTQF) in the country; that later affected the overall mechanisms for managing TET in Tanzania.

This development came with inherent global influences as it contained many features borrowed from the NQF countries visited. NQFs had received much positive acclaim in international literatures which saw them as “a positive, modern, necessary development which all countries should adopt” (Young, 2007: 445). The perceived benefits included increased recognition of learners' qualifications, accreditation of learners' informal learning, provision of an officially recognised basis for comparing different qualifications, and reduction of barriers to the free movement of labour among regional organisations (ibid). It is claimed that in the recognition of NQFs also assist to recognise “the equivalency of qualifications earned in different countries” (Allais *et al.*, 2009: v). Young observes that “relatively little attention, however, has been given to whether these benefits are in reality realised, or to a range of possible consequences that might follow the introduction of an NQF” (ibid: 445).

The NTQF establishment also resulted from the need to address labour market concerns about the inadequate competences of graduates from technical institutions. As with South Africa in the 1990s and the NQF policy's emphasis on “education relevant to the needs of the economy” (Allais, 2007: 529), the NTQF initiated movement towards the introduction of CBET in Tanzania.

Tanzanian notion of competence and CBET trajectory

In the Tanzanian context, the term competence is associated with the clear ability by learners to successfully carry out a particular occupational activity. This is described in terms of 'skills', 'knowledge', and 'aptitude or understanding' as well as typical 'context' and 'level' that a person who possesses such competence could work in (NACTE, 2004a). CBET is thus defined as a system of education and training designed to ensure that upon graduation, learners possess the requisite competences that can be applied flexibly in relevant workplaces (ibid).

Within the country, CBET enjoyed a limited degree of involvement of industry, employers and other key stakeholders during its conception. Also other stakeholders, such as employees and provider institutions, took part in the planning and development of CBET curricula in which perceptions on the competences for specific jobs or occupations were considered. This degree of involvement, notwithstanding, the stakeholders' knowledge about CBET was and still is quite limited.

The CBET trajectory in Tanzania is also not stationary; it is constantly acted upon by various external and internal factors, and is 'mediated' and 'translated' by diverse policy actors (Spours *et al.*, 2007) as shown in Fig. 4.1. As the factors are translated by Tanzania CBET stakeholders, CBET manifestations and trajectory are initiated. These actors interact with the introduced CBET practices, a general process which Spours and colleagues refer to as "mediation" (ibid: 194). This general process involves instances of how CBET practices were received, interpreted, adopted, implemented, and adapted; which Spours *et al.* term "acts of translation" (ibid: 194).

During the early years of post-independence, the state controlled almost all economic and social activities, a situation characterised by less involvement of social partners which, in turn, led to economic stagnation. However, with the launch and implementation of economic reforms and more liberal trade and agricultural market arrangements in the early 1990s designed to address this issue marketised and social partnerships approaches begun to emerge. With CBET in operation, acts of 'mediation' and 'translation' of the external and

internal influences produced a CBET trajectory (Fig. 4.1) whose direction is explained in this study and confirmed to traverse a particular continuum as discussed in Chapter 6 and Chapter 7.

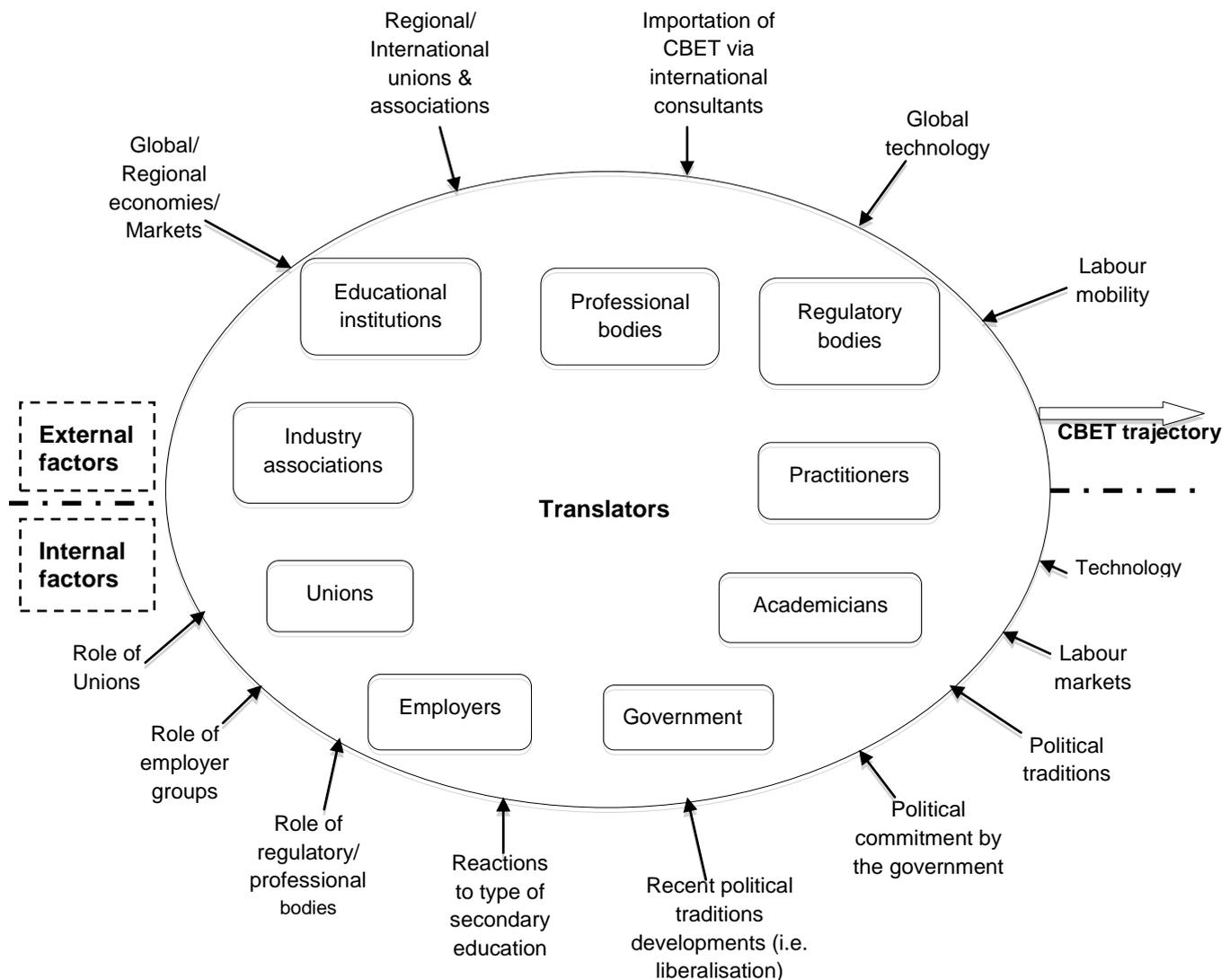


Figure 4. 1 Translators of external and internal factors influencing Tanzania CBET and notion of competence

The Tanzanian concept of competence and its supporting infrastructure

Globalised factors with both external and internal influences discussed above are seen to be shaping the Tanzanian response to competence, and the way it was adopted and adapted as briefly discussed below and in detail in Chapters 6 and

7. The introduction of CBET in the country witnessed involvement of stakeholders in curriculum development process. Despite CBET and the notion of competence being new phenomena in the country, the stakeholders embarked in diverse CBET development and implementation processes without adequate training which suggests strong policy borrowing characterised by mild adaptations (translations) that appear to be taking place as highlighted by the preliminary investigation and explained in Chapter 5.

The adopted approach to competence

The process of CBET curriculum development in Tanzania is undertaken by NACTE and mandated to technical institutions (NACTE, 2004c). Generally the process involves specification of professional profiles in order to derive assessable curriculum modules. A module is “a set of learning outcomes that has been pedagogically structured to respond to a meaningful stage of the work process, to represent a meaningful phase of the learning process, and to constitute the basic units for evaluation” (ibid: 36). Under the CBET curriculum learners are assessed against competences required for specific work contexts and qualification standards are set for the various national technical award levels (NACTE, 2004b).

Basically, the role of NACTE in curriculum development involves defining and establishing a range of national technical awards (NTA) for various fields and setting qualification standards, which are matters that are cross-cutting at national level, among others. NACTE defines four qualification standards namely *purpose of qualification, principal learning outcomes, credit guidelines and associated assessment criteria* (NACTE, 2004c). The role of technical institutions in curriculum development involves identifying enabling learning outcomes and strategies for their realisation, as well as modularisation in which the learning outcomes are organised in modular format to ensure flexibility. Enabling learning outcomes are statements that describe the knowledge, skills and understanding that learners will develop after following a curriculum, and also describe what a student will be able to do with what has been learned in course modules and are verifiable and assessable (NACTE, 2004b).

These activities require conducting situational analysis typically termed labour market demand survey (LMDS) before curriculum development takes place to clarify needs of the target market, needs of the profession, the learners' constraints, as well as to assess the human and physical resources necessary for teaching and learning (NACTE, 2004c).

The processes of curricula change and the institutions involved

The CBET curriculum development process follows steps as schematically shown in Fig. 4.2 below. The qualification standards and the curriculum are accepted/approved by NACTE.

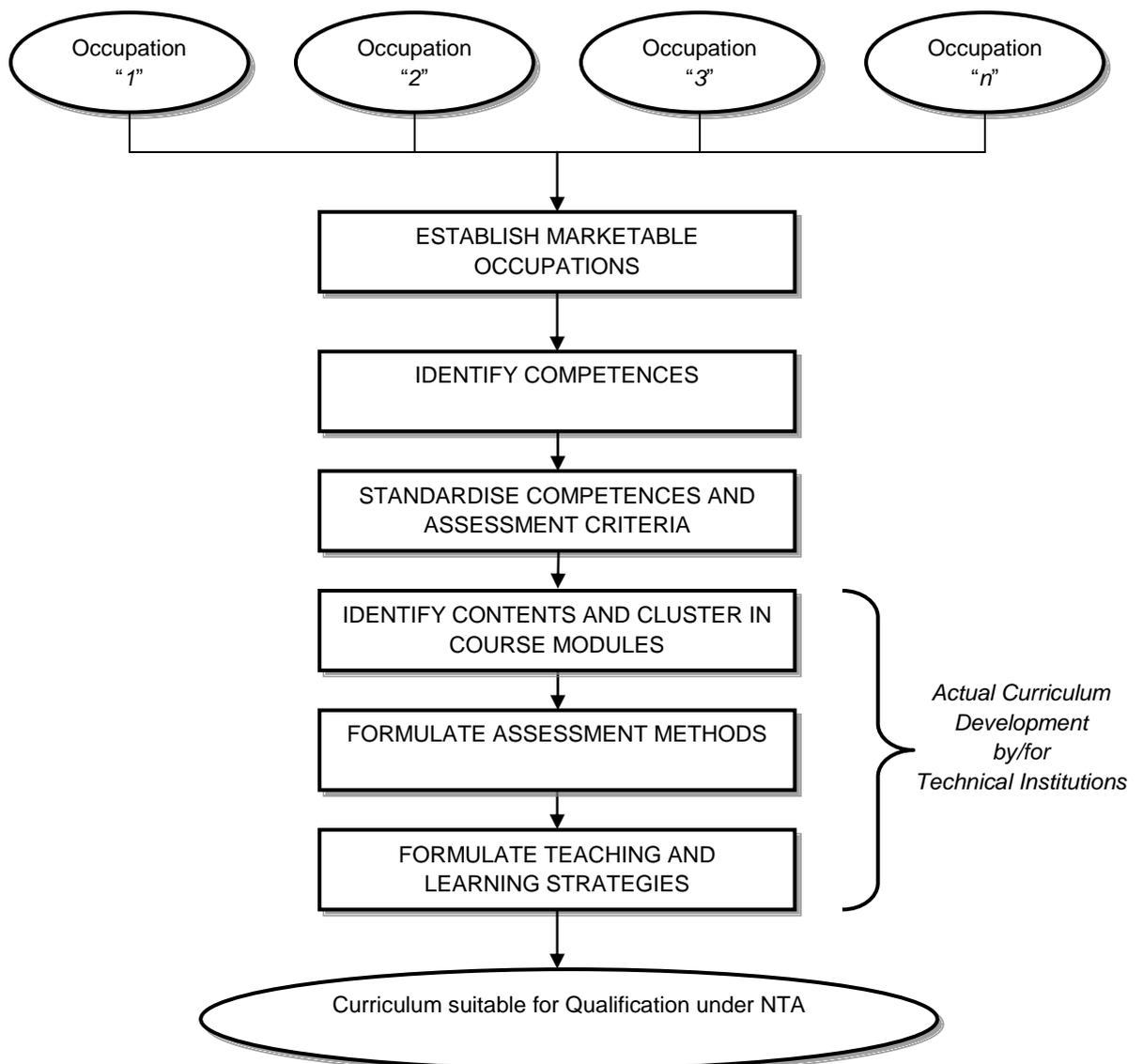


Figure 4. 2 Key steps constituting overall curriculum development process (NACTE, 2004c)

Establishment of competences for various occupations and pertinent attributes and indicators for their attainment usually entails conducting situational analysis (i.e. LMDS). The LMDS yields a market survey report which is validated in a consultative workshop involving key stakeholders before it is used in occupational analysis.

Two techniques are used for conducting occupational analysis: DACUM (Develop A CurriculuM) process, an “approach which starts with the bits that make up a job, and gradually builds on these” (Allais, 2014: 76); and/or the Functional Analysis method, “the approach which starts with defining the central task of an occupation, and then deriving complex functions from it” (Deissinger and Hellwig, 2005, quoted in Allais, 2014: 76). The techniques are used to identify competences required for a particular occupation, utilising the expertise of people in the workplaces “grouped under a trained facilitator to describe what a person should know and know how to do in the job position in a clear and precise manner” (NACTE, 2004e: 17). The DACUM technique produces DACUM charts that indicate the general areas of competence and work place skills, and Functional Analysis produces a Functional Map detailing the requisite competences of the worker (Rutayuga, 2008). The resulting outcomes are processed to formulate the NACTE qualification standards (*purpose of qualification, principal learning outcomes, credit guidelines and associated assessment criteria*).

The Purpose of a Qualification is a statement that indicates what someone (i.e. graduate) with a particular qualification under consideration should be able to do in the world of work in terms of skills, knowledge, understanding and attitudes; a typical context which that person could work in; and the level at which the graduate could work most efficiently (NACTE, 2004b). The Principal Learning Outcomes (PLO) indicate what the learner should be able to demonstrate following completion of a particular training programme at a designated level. PLO statements are written in the following format: Verb(s) + Noun(s) + Modifying Phrases, for example: *Execute plans and designs of both surface and underground mine and civil excavations* (NACTE, 2008a: 13); or *Apply the nursing process and other approaches in providing nursing care* (NACTE,

2008b), which heavily connote the educational objective statements format advocated by Bloom and colleagues written in operational terms beginning with action verbs (Bloom *et al.* 1971) as discussed in Chapter 2. Credit Values are awarded only for evidence of learning achievement, and a credit value is derived through estimation of notional learning time at a particular level (i.e. a notional time is a period spent by an average student in learning about something towards realizing a learning outcome in which 1 credit = 10 notional hours (ibid)). Assessment criteria are statements that clearly indicate what learners are expected to do in order to demonstrate that they have successfully realized a Principal Learning Outcome (ibid).

The experience of conducting LMDS, developing and implementing a curriculum by NACTE and/or technical institutions faces several challenges such as weak translation capacity of stakeholders, resources constraints and weak institutional structures which render the exercises too simplistic, mechanistic and paper-based as discussed in detail in later chapters. The LDMS for instance is gravely challenged by weak research capacity and culture in the country characterised by “lack of coordination and information sharing among stakeholders” and “lack of adequate skills in the analysis of the collected data/information” (Rutayuga, 2008: 46), among other things, which manifest into costly and labour intensive exercise. Challenges of conducting LMDS usually lead to an inadequate capture of the trends in quantitative and qualitative demand for specifically competent/skilled people.

The focus on TVET

Evidence from my 14 years plus experience as a leading NACTE official and from the preliminary investigation work (covered in detail in later chapters) indicates that in Tanzania more emphasis has been placed on design and less on strategy in the development and implementation of CBET. NACTE has dwelt extensively on developing various procedures, guidelines, and regulations covering the conduct of the NTQF, LMDS, curriculum development, registration and accreditation of technical institutions, quality control and quality assurance, assessment, admission of students, monitoring and evaluation, which is regarded as NACTE’s strengths. These activities consumed a lot of financial resources

and were time consuming for the NACTE Secretariat as well as for the technical institutions which are required to either adopt or develop their practices. The activities were at the expense of other equally important matters such as:

- a) Creating adequate CBET awareness among stakeholders,
- b) Developing teachers' and trainers' capacity to adequately deliver and assess a CBET curriculum,
- c) Transforming paper-based procedures into workable and practicable undertakings in terms of actual practical implementation among teachers and other stakeholders,
- d) Adequately tapping the industry experiences through strong networking to delineate their demand and include them in the curriculum,
- e) Instituting strategies for soliciting and disbursing adequate funds for institutional development such as supply of teaching and learning resources,
- f) Favourable teaching and learning environment,
- g) Continuing professional development (CPD) of teachers and trainers as well as NACTE personnel, and
- h) Raising awareness of CBET among a wider stakeholders' group involving external expertise from nations with contemporary CBET practices and internal sources.

As a result, the ensuing CBET appears to be largely policy borrowing with mild adaptations (translations). This scenario suggests the way the theoretical framework begins to work in practice and also helps to set up a hypothesis to be tested in the fieldwork by adopting the research methodology given in Chapter 5.

Concluding summary

The contextual literature work, the theoretical framework and their implications for the Tanzanian CBET have facilitated my formulation of a research hypothesis. I hypothesize that a well defined competence approach alone may not solve all the challenges of skill and competence formation. Thus, competence should be seen not as a 'single magic bullet', but a central component of a complex skill formation structure. This hypothesis is critical in this research because, though globalised factors are seen to be shaping the Tanzanian response to

competence, particularly pressures for regional competitiveness, my hunch is that the decisive factors may be internal. Therefore, this research sought to explore not only the Tanzanian concept of competence but the wider skill-based system.

CHAPTER 5: METHODOLOGY AND METHODS

Introduction

As explained in the previous chapters, this research aimed to explore competence-based education and training (CBET) manifestations and implications globally and their influences on the Tanzanian CBET and the concept of competence developed in this national context. Taking into account the international background literatures and the national interpretation of CBET highlighted by the theoretical framework, the study focused on the main research questions given on page 26 in Chapter 1 in order to address the research aims.

Methodologically, I embarked on carrying out this research while being aware of the way my background and position as a leading official of NACTE could shape this qualitative research. I was also aware of my position as a key informant and a change agent in this study and the important role the thesis might have as a 'use strategy' dictated by one of the study aims. Thus, I endeavoured to be reflexive on the way I chose to carry out the investigation (Koch and Harrington, 1998), the angle of investigation, the methods I found most adequate for this study, the findings I considered most appropriate, and "the framing and communication of conclusions" (Malterud, 2001: 483-484). I therefore provided, under the section on theoretical perspectives, an account of the way I endeavoured to be self-reflexive of my own preconceptions, beliefs, values, assumptions and position and how they may have come into play during the research process.

Using qualitative interviewing techniques I ensured continuous process of reflection on the research through examining myself as a researcher which involved my assumptions and preconceptions, and how these affect my research decisions, particularly, the selection and wording of questions; as well as the research relationship by examining my relationship with respondents and how the relationship dynamics may affect responses to questions. Using reflexivity as an important concept in this research I directed much effort at managing the social interaction component of the interviewer-interviewee relationship so that the

greatest underlying threat to the accuracy of my qualitative research outcomes is addressed.

The conclusions and suggestions for reform in the Tanzanian education and training system pose new challenges regarding my role as researcher and change agent. One of the conclusions arising from my theoretical framework and the different dimensions of evidence is that the concept of competence has been 'weakly translated or mediated' because of lack of national research, debate and problems arising from lack of resources and policy capacity. Therefore, the main challenge now switches from reflexivity as researcher to reflexivity as 'change agent' in order to 'strengthen' the translation of competence in Tanzania by the development of what I have termed a 'socio-technical model'. This will require me to work with a new range of policy actors both within NACTE, across vocational colleges; with various national policy actors involved in TVET and across different ministries. In building what could be regarded as an 'alliance for change', I will be assisted by academics from the IOE who are experienced in the area of policy translation and enactment and whose views are considered to be 'independent' in the Tanzanian context.

In order to address the research questions, the "methodologies and methods" employed in this research as well as justification for their "choice and use" (Crotty, 1998: 2) are provided in the subsequent subsections.

Philosophical underpinnings

Any research approach "involves philosophical assumptions as well as distinct methods or procedures" (Creswell, 2009: 5). Research design, which Creswell refers to as the "*plan or proposal* to conduct research, involves the intersection of philosophy, strategies of inquiry, and specific methods" (ibid: 5: emphasis in original). A good research proposal has to consider the "methodologies and methods" to be employed in the proposed research, as well as justification for their "choice and use" (Crotty, 1998: 2). Within a research process, methods mean "the techniques or procedures used to gather and analyse data related to some research question or hypothesis", and methodology means "the strategy,

plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes” (ibid: 3).

In order for a researcher to justify the choice and particular use of methodology and methods for a specific research or study, it is desirable to make assumptions about the reality which the researcher brings to the work under consideration. Asking about these assumptions, which Creswell (2009: 5) terms “philosophical worldview assumptions” is synonymous to asking about “our theoretical perspectives” (Crotty, 1998: 2).

A theoretical perspective means “the philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and criteria” (ibid: 3). The theoretical perspective is shaped by the researcher’s understanding of what embodies knowledge; namely the epistemology which entails “the theory of knowledge embedded in theoretical perspective and thereby in the methodology” (ibid: 3). The methods, methodology, theoretical perspective, and epistemology are the basic elements of any research process.

Crotty affirms that there are several epistemological positions, theoretical stances, methodologies, and plentiful methods, for any research undertaking. These are formulated by Creswell into a framework for research design (Fig. 5.1) and developed into three areas: knowledge claims (including epistemology and theoretical perspectives), strategies of inquiry and methods (Creswell, 2009).

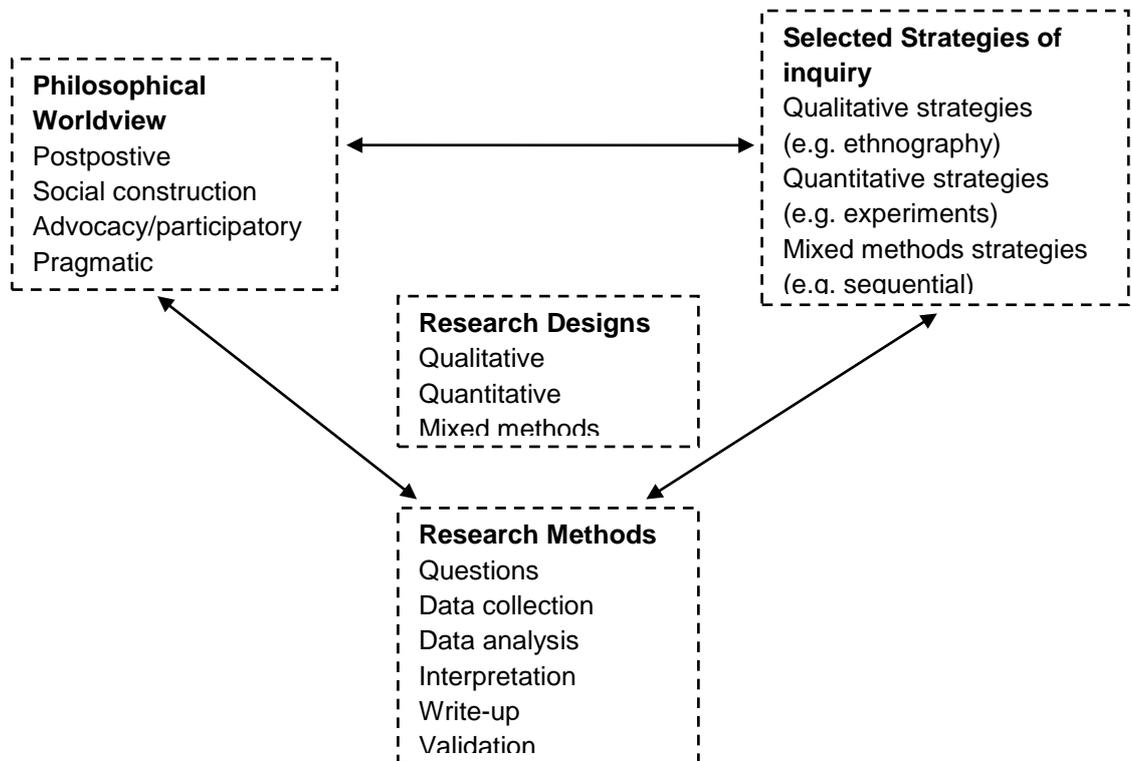


Figure 5. 1 A Framework for Design - The interconnection of Worldviews, Strategies of Inquiry, and Research Methods

Source: Adapted from Creswell (2009: 5, Figure 1.1)

Theoretical perspectives

This research provides an in-depth review of origins and implementation of CBET within diverse contexts across six nations. It delineates diverse external and internal factors influencing CBET and its consequent trajectories over time; and uses this understanding to explore and analyse the possible emerging Tanzanian concept of competence and the conditions for its successful implementation in national and global contexts to inform practices across diverse sectors of the economy.

The exploration involved collecting and evaluating documents and key stakeholders' perceptions, fulfilling what Robson affirms as "multiple social constructions of meaning" (Robson, 2002: 27) for the notion of 'competence' and 'CBET' generally. Hence it addresses what Crotty identifies as 'constructionism' holding the view that "*all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context*" (Crotty, 1998: 42: emphasis in original).

The constructionist view advocates that “meaning is not discovered but constructed” (Denscombe, 2010: 42) by humans as they engage “with their world and making sense of it” (ibid: 54). Constructionism “embraces the whole gamut of meaningful reality”, which when collectively constructed by social actors rather than individually falls under ‘social constructionism’ denoting the “social construction of reality” (ibid: 54).

Meaning has a social origin as well as pertinent social character. Thus, for a deeper understanding and construction of meaning about CBET and the notion of competence founded on the experiences and perceptions of social actors which I term ‘translators’ of CBET ‘mediation’ processes (Spours *et al.*, 2007), application of hermeneutics was preferred. Hermeneutics is “the ‘art and science of interpretation” (Robson, 2002: 196). It is an example of a “process whereby people make sense of their world” (ibid: 196). Hermeneutics treat determination of meaning as a “matter of practical judgment and common sense, not just abstract theorising” (Robson, 2002: 91). It is widely applied in the interpretations of text, “to conversations, interactions between people in different settings” (ibid: 96); hence is my adopted approach. The hermeneutics approach easily situates “within history and within culture” and allows for “sharing of meaning between communities or individuals” (ibid: 91). While adopting constructionism at epistemological level governed by the social constructionism approach, the study adopted interpretivism as its theoretical perspective position. Interpretivism was used to critically investigate the methods that CBET users and translators employ to “create their knowledge about the social world” (Denscombe, 2010: 118) in “attempts to get shared meanings” with them (Bassegy, 1999: 44). Hermeneutic approaches helped me “to see things as those involved see things” (Denscombe, 1998: 69). They were deployed to provide an in-depth exploration of the perceptions of the translators of the Tanzanian CBET and the notion of competence whilst considering the historical, political, social and cultural elements of TET in Tanzania.

As a researcher, having worked for NACTE in Tanzania that oversees and coordinates provision of TET, and this being a key translator and mediator of the Tanzanian CBET, I was aware of the challenges to be faced in this new role. I

concur with Denscombe's affirmation that "as researchers, the meanings we attach to things that happen and the language we use to describe them are the product of our own culture, social background and personal experiences" (Denscombe, 2007: 68). As an insider researcher I had a privileged role in terms of organisational knowledge and access to information (Bell, 1999). I had knowledge of the context of the study, and "an unexamined common-sense view" (Robson, 2002: 382) of the way TET really works. However, I was cognisant of challenge of managing the power implications of my work and my positioning as a researcher and as a practitioner within my study. I knew the dilemma of possibly challenging the value system of my organisation and professional field in some way. However, I endeavoured to be "self-reflexive" (Angrosino, 2007: 12) and uphold the spirit of "self-awareness" (Denscombe, 2007: 73) in order to "identify areas of potential researcher bias" (Robson, 2002: 173). Hence, I was aware of the manner in which my identity as an employee of NACTE could influence and shape my "interpretations formed during [the] study" (Creswell, 2009: 177), or the bearing it might have "on findings" (Denscombe, 2007: 69). In certain instances the interviewees requested me to share my experiences on the way I see CBET implementation in the country. Though, I declared that I did not have any vested interest in certain results being achieved, rather their honest opinion, I was constantly self-reflexive which involved questioning and justifying my own underlying assumptions and sometimes taken for granted positions about CBET implementation in the country. Constant reflexivity and self-awareness were ensured by actively participating in learning through listening, talking to participants, reading and writing participants' accounts which sought to "tease out and examine my underlying assumptions, decisions, actions and research relationships" (Forbes, 2008: 454). This helped me to frame and reframe aspects of my research in order to address the insider researcher challenges.

Creswell's framework for research design (Fig. 5.1) is used to determine the choice of research approach to guide the research design and the process of data collection in the field in order to address the research questions.

Knowledge claims

The theoretical perspective is “a way of looking at the world and making sense of it” (Crotty, 1998: 8) and involves knowledge and understanding of what brings about knowing, particularly, “*how we know what we know*” (ibid: 8: emphasis in original). This epistemology is intrinsic in the theoretical perspective which guided my choice of a methodology. Epistemology seeks to provide a “philosophical grounding for deciding what kinds of knowledge are possible and how we can ensure that they are both adequate and legitimate” (Maynard, 1994: 10). It is “a way of understanding and explaining how we know what we know” (Crotty, 1998: 3).

There is another notion of philosophy which is closely related to epistemology, described as ontology. Ontology is “the study of being. It is concerned with ‘what is’, with the nature of existence, with the structure of reality” (Crotty, 1998: 10). Both epistemology and ontology “inform the theoretical perspective” (ibid: 10), and define the meanings of knowledge and reality upon which the research strategies and methods are based. Literature identifies four developed knowledge claim positions from epistemological, ontological and theoretical perspectives groupings (Lincoln and Guba, 2000; Crotty, 1998; Neuman, 2000; Creswell, 2009: 6) - postpositivism, constructivism, advocacy/participatory, and pragmatism.

The position followed by this research is *social constructionism*. By amalgamating social constructionism and interpretivism strategies, the methodology for this research endeavoured to be hermeneutical to proffer diverse interpretations and understandings of the notion of competence and CBET advocated within various literatures and the study findings obtained from empirical work. Supported by “dialogic’ nature of hermeneutic enquiry” (Robson, 2002: 197), dialogue with participants in the selected study cases (see Table 5.1 which depicts the research questions and the proposed methods and sources for each research question) generated my initial understandings which were “refined through interpretation” and in turn helped to raise further questions that warranted returning to reviewed background literatures to revise my interpretation (ibid: 198). It enabled me to be actively involved in the research process, and

throughout I was “trying to understand what” the Tanzanian CBET and overall skill formation meant to the translators and thus was able to “integrate that meaning with its meaning” to me as a researcher (ibid: 198).

Table 5. 1 Questions, methods and research sources

Research questions	Methods	Sources
1. What is the dominant or prevailing ‘model’ of competence in Tanzania; how did it emerge; what are its assumptions and how does it relate to international debates on competence?	Background literature reviews on CBET origins, debates and notion of competence in the six nations (USA, UK, Australia, the Netherlands, Germany, South Africa); Constructed conceptual framework mapping CBET manifestations, notion and approaches of competence and CBET trajectories in the six nations.	Academic and professional literatures on CBET and pertinent fields.
	Implications of global CBET and notion of competence to Tanzanian CBET; Constructed conceptual framework for TZ CBET manifestations; Document analysis.	Academic and professional literatures on CBET and pertinent fields; Relevant national documents.
	Conducted preliminary investigation (via questionnaire and interview) in Tanzania to confirm external and internal factors influencing Tanzania CBET and notion of competence; Analysis of Technical Education and Training Policy (1996) in Tanzania; Analysis of National Council for Technical Education (NACTE) Act No. 9 of 1997 and its implementation; Document analysis.	Preliminary investigation findings via questionnaire and interview (<i>Appendix 1</i>); Relevant national policies and other documents.
2. How did the model aim to improve productivity and skill and how is it performing against its existing assumptions?	Case studies <ul style="list-style-type: none"> • ‘Pioneers’ of Tanzanian CBET • Policy makers (MoEVT, MoHSW) • Professional bodies • Employers association • Provider institutions <ul style="list-style-type: none"> • Mining engineering technicians (ordinary diploma holders) & nursing technicians (ordinary diploma holders) 	<i>Interviews/Questionnaires:</i> ‘Pioneers’ (4) Policy makers (2, one from each ministry) Professional bodies (2) Employers association (1) Provider institutions (6 and 10 questionnaires from institutions under Science and Allied Technologies, and Health and Allied Sciences Subject areas respectively). Supervisors (2 from each mining engineering and nursing sectors).
	Document analysis	Ordinary diploma (NTA Level 6) in mining engineering, and nursing curricula
3. What are the views of the stakeholders that mediate this policy approach within Tanzania; what debates are taking place around this model and where is it heading (trajectory)?	Background literature reviews on CBET origins, debates and notion of competence globally, and locally; Policy and document analysis; Conducted preliminary investigation in Tanzania (via questionnaire and interview).	Academic and professional literatures on CBET and pertinent fields; Relevant national policies and documents; Preliminary investigation findings via questionnaire

<p>4. What is the relationship between the dominant model of competence and the wider governance formation (e.g. regulatory institutions, private sectors networks, provider institutions and the Tanzanian state more generally)?</p>	<p>Case studies</p> <ul style="list-style-type: none"> • 'Pioneers' of Tanzanian CBET • Policy makers (MoEVT, MoHSW) • Professional bodies • Employers Association • Provider institutions 	<p>and interview. <i>Interviews/Questionnaires:</i> 'Pioneers' (4) Policy makers (2, one from each ministry) Professional bodies (2) Employers association (1) Provider institutions (6 and 10 questionnaires from institutions under Science and Allied Technologies, and Health and Allied Sciences Subject areas respectively). Supervisors (2 from each mining engineering and nursing sectors).</p>
<p>5. What evidence that another model of competence could emerge in Tanzania; what are its main features and how might it perform in relation to future need?</p>	<ul style="list-style-type: none"> • Mining engineering technicians (ordinary diploma holders) & nursing technicians (ordinary diploma holders) 	

Drawing from hermeneutics strategies, the study adopted a qualitative approach to seek “individual historical accounts” of how competence and CBET, being “a new shift system”, emerged in the country (Robson, 2002: 271). Experiences about the notion of competence obtained from background literatures, review of relevant national (Tanzania) documents in form of policy and practice, as well as fieldwork were crucial to this approach from the assumption that “concepts do not exist freely, but are in one way or another anchored into a distinct human discourse” (Hasselgreen and Beach, 1997: 195). The dialogue with participants produced qualitative data involving a “detailed description of setting or individuals, followed by analysis of the data for themes or issues” (Creswell, 2009: 184) or perspectives which were blended with information from a review of relevant national documents to interpret participants’ discourses to formulate new associations and understandings.

This is among the strategies adopted in this research for an in-depth understanding of the participants’ perceptions on CBET and competence, which are issues under investigation. Qualitative strategies were my choice because they provide for depth rather than breadth to the analysis (Mabry, 2008). By coding “data into meaningful groups” (Robson, 2011: 478), and sorting them into possible themes and combining multiple themes into larger themes or perspectives (Robson, 2011; Bryman, 2004) helped “to deal with the complex interrelationships that characterize many social phenomena” (Denscombe, 2010: 102).

In analysing and interpreting the data collected, as a researcher, I tried to “elicit what different actors seem to be doing and think is happening” (ibid: 44). Informed by the gained understandings from background literatures, the developed theoretical framework and the preliminary investigation, the study further adopted inductive approaches to draw “generalizable inferences” (Bryman, 2004: 9) from interviews and questionnaires administered during the empirical work and to allow “for themes to emerge direct from the data” (Fereday and Muir-Cochrane, 2006: 4). Since inductive approach can be accommodated within the case study strategy (Charmaz, 2005), the study used case study approach as the research strategy.

The case is the Tanzanian CBET system within TET, and the mining industry and the nursing service are my case studies. The choice of a case study approach was ideal for this investigation due to the practical manifestation of the issues under investigation, as well as the strength of the case study approach to employ multiple sources of evidence (Yin, 2009). Since the “case study approach allows the use of a variety of research methods”, use of multiple methods facilitated “capture of the complex reality under scrutiny” (Denscombe, 2007: 44), and hence fostered use of manifold sources of data to facilitate “the validation of data through triangulation” (ibid: 44).

The selection process

Based on the focus of this study, the target study population was the key stakeholders of the Tanzanian CBET, whose opinions were sought using interview and/or questionnaire methods. In order to address the purpose and aims of the study, the sample comprised respondents who were involved in the construction, communication and/or implementation of CBET at various points in the “policy cycle” and at various levels of the state either at national, regional, sectoral, or local level (Bowe *et al.*, 1992: 19). Thus, the selection of key respondents involved purposive sampling. The choice of purposive sampling was based on Lewin and Patton’s affirmation that it is the “handpicking of cases” for particular purposes, which provides most information and understanding of the group discussed (Lewin, 2006: 219) or “information-rich cases whose study will illuminate the questions under study” (Patton, 2002: 230). In this way, the

stakeholders' perceptions on competence and their impression on the CBET influences were gathered and analysed to outline the factors working for and against the widely heralded CBET benefits.

The selection process of the first four groups of key stakeholders (i.e. pioneers, policy makers, employers association, and professional associations) is discussed below.

The 'pioneers' of the idea of CBET in the country

A number of factors were considered in the selection of the pioneers to take part in the interview process. Firstly, the pioneers are among the key individuals who contributed enormously to the development of TET policy in Tanzania in 1996. Secondly, as the general objectives of the policy included, for example, the need to institute "an effective technical education and training system" (URT, 1996a: 4), NACTE was established and sanctioned to oversee and coordinate provision of TET in the country (URT, 1997). The pioneers were among the few selected individuals charged with the responsibility of managing NACTE to realise its mandated functions. Thirdly, in order to effectively implement the policy the pioneers, together with other key policy actors, considered it imperative to study and analyse external and internal environments. Exposure to the external environment in the late 1990s initiated studies on the development of the national technical qualifications framework (NTQF).

Finally, the NTQF initiated movement towards the introduction of CBET in Tanzania in the early 2000s. It is by the work of the 'pioneers' in cooperation with officials (i.e. Ministries), employers' association, professional associations, and representatives of provider institutions, among others that initiated the CBET policy.

Other key CBET stakeholders in the country

This group of stakeholders was formed by individuals from different sectors in the country including policy makers (i.e. Ministries), employers association, and professional associations who teamed up with pioneers to initiate the CBET policy. The work of this group included ensuring that CBET "policy discourses

are constructed” (Bowe *et al.*, 1992: 19) and marketed to the political actors at public policy level in the country. Together with pioneers they involved other social networks such as public and private employers in various sectors of the economy, who were unhappy with the competence of graduates in the world of work, promoted the notion of competence and its predicted benefits. Selection consideration of the employers to participate in the in-depth interview is detailed in the subsequent sections.

Policy makers (i.e. Ministries)

I chose interviewees from two Ministries - the Ministry of Education and Vocational Training (MoEVT), and the Ministry of Health and Social Welfare (MoHSW).

Ministry of Education and Vocational Training (MoEVT)

Choice of MoEVT was guided by the fact that it is the Ministry which is mandated to oversee the overall management and administration of the education and training sector in the country, in collaboration with other Ministries and bodies. The MoEVT is responsible for policy formulation, setting standards, quality control and assurance in collaboration with other regulatory bodies such as NACTE which regulates TET in Tanzania. The choice of engaging MoEVT officials to participate in the study was also based on the fact the ministry owns the technical institutions selected to participate in the administration of the questionnaire as discussed in the subsequent sections.

Ministry of Health and Social Welfare (MoHSW)

The MoHSW oversees all health and allied sciences training institutions in the country (56 public; 67 private) that are legally permitted to deliver CBET curricula (Table 5.2). The choice of this Ministry to participate in the study was based on the number of institutions under its ambit, some of which served as case studies, and others of which were selected to participate in the administration of the questionnaire as detailed in later sections.

Table 5. 2 Technical institutions per Subject Board: registration, accreditation and CBET curricula status

Subject Board/Area	Institutions per Subject Board/Area	Registered institutions (Full & Provisional)		Registered institutions (Preparatory ⁹)		Accredited institutions (Full & Provisional)		Accredited institutions (Candidacy ¹⁰)		NTA programmes (CBET curricula) per Level			
		Public	Private	Public	Private	Public	Private	Public	Private	NTA 4-6	NTA 7-8	NTA 9	Total NTA
Business Management, Tourism and Planning (BTP)	134	45	81	0	8	24	8	9	5	171	60	8	239
Health and Allied Sciences (HAS)	127	56	67	0	4	23	18	24	8	10	9	-	19
Science and Allied Technologies (SAT)	74	49	25	0	0	27	8	6	3	142	38	4	184
Teachers Education and Learning Facilitation (TLF)	23	6	17	0	0	3	0	0	0	13	8	-	21
Total	358	346		12		111		55		336	115	12	463
										463			

Source: NACTE, (2013) (Data as at December, 2013)

Employer association

This stakeholders' group was represented by the Association of Tanzania Employers (ATE). ATE is an apex national employers' body representing "a cross section of employers" (ATE, 2011: 1) in all sectors of the economy in the country and is mandated to "ensure that national policies and legislation are suitable for employers and the business community as a whole, so that harmonious employment and labour relations prevail in places of work" (ibid: 1). Choice of ATE to take part in this study was based on the fact that it represents employers' voice; and also being among the organisations and individuals that took part in the debates which led to the introduction of CBET in the country. Moreover, it possesses a permanent membership in the NACTE Council which is the policy organ for Technical Education and Training sector in the country.

⁹ Preparatory registration is granted to an institution that is in the process of being established or has no adequate resources to provide training sustainably. A technical institution granted this category of registration is not allowed to admit students (NACTE, 2001a).

¹⁰ Candidacy accreditation is granted to an institution which once it attains full registration award demonstrates that it is undertaking the necessary steps to reach demonstrable compliance with the NACTE academic qualification standards (NACTE, 2001b).

Professional associations

This category of respondent group involved two professional associations – the Tanzania Chamber of Minerals and Energy (TCME) and the Tanzanian National Nurses Association (TANNA).

Tanzania Chamber of Minerals and Energy (TCME)

TCME represents the interests of its members in the Tanzanian mineral sector, and acts as a voice for the industry. The Chamber plays a central role within the sector as a mediator between the mining investment community and key stakeholders, most notably the Government of Tanzania and the public. Establishment of the Chamber came as part of the Government's resolve to evolve a private sector-led minerals industry to act as a focal point for dialogue on issues affecting the mining industry in general and its members in particular. Based on this vital role mandated to TCME, and the indisputable fact that Tanzania is generally categorised as a "mineral economy, with the mining sector accounting for approximately four percent of GDP and close to half of the country's exports" (UN-ECA, 2008: 7), I found it imperative to include TCME in this study. Since the country possesses "rich mineral and energy resources, ranging from metallic mineral deposits, gemstones and industrial minerals to fossil fuels including coal and natural gas" (ibid: 7), TCME's selection was strategically made to help me identify suitable mining firms to take part in the case study as described in the case study selection section.

Tanzanian National Nurses Association (TANNA)

TANNA operates as the national professional organisation of *Enrolled* and *Registered* nurses in the Tanzania mainland established to advance the profession and practice of nursing in the country. One of its major objectives includes providing support to nurses and enabling them to speak with a powerful unified voice. The choice of TANNA to participate in the interviews was based on the fact that the nursing programme has a larger number of technical institutions under the health and allied sciences subject area. Also, in this study employers of the graduates in nursing were included as a case study; and some nursing provider institutions were selected to complete the questionnaire. Involvement of TANNA in the interviews aimed at getting their perceptions on the notion of

competence and on the rigour of CBET to produce competent graduates to manage diverse nursing roles in the healthcare sector in the country.

The key stakeholders' groups discussed above, and others including various industries, recognising "skills and adequate skill development as critical to ensuring industry sustainability and high productivity in conditions of intensified global competition" (Fenwick and Hall, 2006: 572), promoted an "increasing academic interest in skills, [which then] reflects the growth of policy and practice concerns" (ibid: 571) at different levels of the state.

The interview method

The "interview is an inter-subjective enterprise of two persons talking about common themes of interest" (Kvale and Brinkmann, 2009: 192). Interviews are "conversations" (Rubin and Rubin, 2005: 129) that seek to understand "the experience of other people and the meanings they make of that experience" (Seidman, 1998: 3). A "qualitative research interview attempts to understand the world from the subjects' points of view, to unfold the meaning of their experiences, to uncover their lived world" (Kvale and Brinkmann, 2009: 1). Thus, "whom you choose to interview is crucial" in qualitative research; so choosing thoughtfully is imperative" (Rubin and Rubin, 1995: 65-66).

Interviews are used "when a researcher needs to gain insights into things like people's opinions, feelings, emotions and experiences" (Denscombe, 1998: 174). They are "active interactions between two (or more) people leading to negotiated, contextually based results" (Fontana and Frey, 2005: 698). The nature of opinions, feelings, emotions and experiences "means that they need to be explored in depth and in detail" (Denscombe, 1998: 175). This study used both unstructured and semi-structured interviews. In both kinds of interviews, the interview proceedings were audio recorded.

Unstructured interviews were used for interviewing the CBET 'pioneers', policy makers, professional and employers associations. By unstructured interviews I am referring to an informal conversation in which the interview relied on my social interaction with the informant, loosely guided by the developed template of

questions. Since these groups have diverse mandates under their areas of jurisdiction; letting them “develop their ideas and pursue their train of thought” (Denscombe, 1998: 176) enabled them to speak their minds about the Tanzanian model of competence and their perceptions on fit of the competence framework within wider governance formation. A danger with unstructured interviews is that they risk the furnishing of irrelevant data that may perhaps be misleading; nevertheless allowing “interviewees to use their own words and develop their own thoughts” (ibid: 176) helped me to discover their perceptions about complex issues related to CBET and the competence.

Interviewing the pioneers aimed also to confirm or otherwise my assumption about the Tanzanian CBET ‘hybridity’ informed by previous findings from the background literatures and the preliminary investigation work. Questions about factors that influenced their original thinking, how they think CBET system has developed since its inception in Tanzania in 2000s, and the challenges the system faces contributed to explore ‘hybridity’ perception. The unstructured interviews contained a set of common questions to policy makers, employers association and professional associations; save for the ‘pioneers’ who had some questions slightly different from those of the other three key stakeholders’ groups. The common questions however, were tailored specifically to address their understanding of CBET, its main strengths and weaknesses, and how it might be developed. They allowed for comparisons of perceptions across different social partners at the various points in the policy cycle and at different levels of the state.

Case study selection

Discussion conducted in Chapter 4 indicated that effective implementation of the TET policy necessitated study and analysis of external and internal environments. Conduct of the preliminary investigation to confirm the proposition that the Tanzanian CBET was influenced by both from external and internal factors resulted in a striking finding that the external factors had an enormous influence on the Tanzanian CBET. The selection of the two case study industry was informed by the preliminary investigation results which indicated that while mining engineering in Tanzania is primarily influenced by external factors due to

most investors in the mining industry being foreign firms, nursing is influenced mostly by internal factors. The inclusion of these two industries was to provide a contrast between the competences demanded by foreigners mostly in the mining firms, and the local/internal ones in healthcare centres.

Semi-structured interviews were planned for firms/institutions employing CBET graduates, where supervisors of the mining engineering and nursing technicians were interviewed. They were intended to help me deeply explore the kind of competences exhibited by the employees at workplaces, and inform me about how the competences are valued by the employers. This gave me “a clear list of issues to be addressed and questions to be answered” (Denscombe, 1998: 176). Nevertheless, interviewees were allowed to “develop ideas and speak more widely” (ibid: 176) on the competences possessed by the employees, employees’ strength and weaknesses and their overall perceptions on the use of CBET for teaching and learning purposes. The selection process of the mining and nursing industry groups is discussed below.

The Mining industry

Literatures posit that “Tanzania’s mineral endowments are considerable” (UN-AEC, 2008: 1); and “minerals now account for nearly half the country’s exports and Tanzania is Africa’s third largest gold producer” (Curtis and Lissu, 2008: 7). The country also has large reserves of non-fuel resources like “diamonds, coloured gemstones, nickel, tin to name a few” (UN-AEC, 2008: 1). After the introduction of economic liberalisation policies in the early 1990s, the Government took a firm decision to promote private investment in the mineral sector. In order to supply the mining industry with a competent workforce, NACTE assisted some technical institutions to develop demand-driven, competence-based curricula for mining engineering and related programmes. Graduates from technical institutions delivering the mining engineering CBET curriculum are already in employment within the mining industry. Two mining firms were selected to participate as case studies in the in-depth interview (see Appendix III) to obtain employers’ views on the kind of competences exhibited by the mining engineering ordinary diploma holders employed as mining engineering technicians. The firms are Geita Gold Mine in Geita Region, and Williamsons

Diamond Limited in Shinyanga Region. Choice of the firms was also based on the recommendation by TCME that they are suitable firms employing mining engineering technician ordinary diploma holders who followed the CBET system.

Geita Gold Mine

The Geita gold mine (GGM), which is wholly owned by the South African AngloGold Ashanti Company, is located in Northern Tanzania near Lake Victoria in Geita Region approximately 910km from Dar es Salaam City; and about 78km Northwest from Mwanza. “Geita, which began production in 2000, is the largest of AngloGold Ashanti’s eight open-pit mines in Africa and is the group’s only operation in Tanzania” (AngloGold Ashanti, 2008: i). GGM is situated within the Sukumaland Greenstone Belt of the Lake Victoria goldfields. “This geological terrain is considered to be one of the most productive Archaean Greenstone Belts in East Africa” (AngloGold Ashanti, 2011: 109).

The Geita Gold Mine was selected for the in-depth interviews because of its long history in the mining industry in Tanzania since 1960s before its closure in 1966 and resumption of business in the late 1990s and early 2000s; as well as being in a strategic Geita greenstone belt considered to be the most productive gold province in Tanzania. The vast experience of this firm was expected to be exploited to provide the contrast of employees’ competences over time, even before CBET was introduced in the country.

Williamsons Diamond Limited (WDL)

Williamson Diamond Limited (WDL) is located in Mwadui in the Northern part of Shinyanga Region about 750km Northwest from Dar es Salaam. The company is a joint venture between Petra Diamonds which owns 75% shares acquired in 2008 from the De Beers Group, and the remaining 25% is owned by Government of Tanzania. The WDL, also known as Mwadui mine is well known as the first significant diamond mine in Africa outside of South Africa. “The mine was established in 1940 by Dr. John Williamson, a Canadian geologist, and has been in operation ever since, making it one of the oldest continuously operating diamond mines in the world” (Semboja, Selejio, and Silas, undated: 3). The WDL, which operates an open-pit diamond mine at Mwadui, is one of the longest-

standing government-private sector partnerships in existence (ibid). It is “the world’s largest economic kimberlite by surface area at 146 hectares in size”, and a “historic source of high value Type II diamonds and fancy pinks. It is the Tanzania’s only important diamond producer; and despite having been operated continuously since 1940, the pit is only 90 metres at its deepest point due to the large size of the deposit” (Petra Diamonds website).

Choice of WDL to participate in the interviews was based on its long history in the production of diamond in Tanzania, as well as being one of the longest-standing government-private sector partnerships in existence; the experience that was expected to give distinct views about CBET.

The Nursing service

Tanzania is divided into 30 regions; 25 on the mainland and 5 in Zanzibar. The regions are divided into districts forming a total number of 148 districts; 138 in the mainland and 10 in Zanzibar.

The structure of health services at various levels in the country is pyramidal with public and private dispensaries, health centres, and district, regional and national hospitals managed by the Government and by non-governmental and faith-based organisations (URT, 2010). The Ministry of Health and Social Welfare (MoHSW) is responsible for setting health services standards on the staffing level, equipment, drugs, medical supplies, reagents, dental oral health and building plans which are revised as need arises (URT, 2007b).

Each district ought to have a district hospital. The district hospital, which is a level one hospital, is a very important level in the provision of health services in the country. It provides hospital services in the district including out-patient and in-patient care, acting as the second referral level, providing primary healthcare facilities, and performing general surgical and obstetric operations (URT, 2007b). The national/ referral/specialised hospital is the highest level of hospital services in the country. The hospital at this level is likely to be equipped with qualified human resources, other infrastructures and facilities for provision of services compared to other levels such as district and regional hospitals.

In this study, I selected two district hospitals namely Bagamoyo District Hospital (in Coast Region), and Amana District Hospital (in Dar es Salaam Region) and a national hospital - Muhimbili National Hospital (in Dar es Salaam) for in-depth interviews. The selection criterion was based on the availability of nursing employees in these hospitals who are certificate and ordinary diploma holders that followed the CBET system; the information I obtained from the MoHSW.

Bagamoyo District Hospital (BDH)

Bagamoyo district hospital is about 60km from the Dar es Salaam City. It serves a population of around 300,000 people. The hospital is a typical Tanzanian general hospital, with around 125 beds, and 5 wards (maternity, female, male, pediatric and isolation). In addition, there are two operating theatres (major and minor); a dental surgery, eye department; and various out-patient departments.

Amana District Hospital (ADH)

The Amana district hospital is situated in Ilala Municipality within the Dar es Salaam City. The hospital provides care to about one million residents of the Ilala Municipality, and other dwellers of the City. Most ADH patients are referred from small health centres and smaller private hospitals whilst some come straight from home. The hospital is famous for maternity; with an average of over 80 deliveries per day. With 192 bed capacity, and five departments (surgical, medical, pediatrics, maternity and out-patient departments); Amana district hospital also treats various general medical cases prevalent in Tanzania.

Muhimbili National Hospital

Located in Dar es Salaam City, the Muhimbili National Hospital (MNH) is the main referral and teaching hospital, as well as the national reference laboratory for the country. It is the largest hospital in Tanzania with a 900 bed facility, and serves approximately 1000 to 1200 outpatients per day; and normally around 1000 to 1200 admitted patients in various wards daily. The “hospital has 2700 employees of whom 300 are doctors and specialists, 900 are registered and enrolled nurses and the remaining are supporting operations employees” (MNH official website).

MNH is organised into eight directorates; and my in-depth interview was made with the directorate of Nursing Services. The major role of the directorate of Nursing Services is “to ensure that nursing services and other support services are provided at an optimal standard” (ibid).

The groups of stakeholders who opted to participate in the in-depth interviews as part of case studies discussed above were selected because of their contribution to CBET development and implementation either during standards setting, curricula development, and/or providing feedback to the training system and working with CBET trainees during practical attachment or with CBET graduate employees.

All the groups come from various levels of the state and constantly interpret CBET policy during its construction, communication and implementation at various points in the policy cycle. Though tertiary education is a matter at national level currently overseen by the Ministry of Education and Vocational Training (MoEVT) which formulates “national initiatives” (Spours, 2011: 38) in education and training, assisted by regulatory bodies/authorities (i.e. NACTE and TCU), with the state functioning as what Hodgson and colleague term “a complex combination of central steering via national arms length agencies and centrally devised policy levers” (Hodgson and Spours, 2012: 196), stakeholders taking part in CBET processes also come from other levels of the state including regional, sectoral and local. Some of the private employers, and provider institutions, including students, come from local levels and their voices in the policy process are heard mostly during the implementation stage. However, during policy initiation processes their voices “remain, for the most part, strangely silent” (Bowe *et al.*, 1992: 6), which likely affects power sharing “to set the direction of policy” (Hodgson and Spours, 2012: 203). Consequently there are varied perceptions on the Tanzanian CBET explored in this research.

The questionnaire method

Provider institutions also fall under the stakeholder group representing the context of practice. Thus, it was imperative to seek their views regarding how

CBET policy is mediated, the fit of the competence framework within the wider governance formation, the current and future performance of the Tanzanian CBET against existing assumptions of the model, as well as its main proposals in improving productivity and skill.

The study used open-ended questionnaires to collect information from provider institutions. I considered the questionnaires as a more distant form of survey in which informants responded to open-ended common questions to provide necessary details. Their views were compared with those obtained from interviews. The open-ended questions are “the catch all category” (Munn and Drever, 1990: 23) and were similar to interviews with common questions to enable making comparison between views collected via interviews and questionnaires, and thus allowing for data triangulation.

Currently, NACTE has 358 institutions under its ambit, out of which, 156 are public and 202 are private (Table 5.2). Given that provision of TET in Tanzania is organised around the subject areas of *Business Management, Tourism and Planning (BTP)*; *Science and Allied Technologies (SAT)*; *Health and Allied Sciences (HAS)*; and *Teachers Education and Learning Facilitation (TLF)* for effective coordination, I decided to include some technical institutions from the subject areas/fields in which mining engineering and nursing belong since these fields provide the context for the case studies.

By December 2013, a total of 35 institutions were already accredited under *SAT* subject area and a total of 41 institutions under *HAS* subject area (Full and Provisional in Table 5.2); and thus legally mandated to deliver CBET curricula. Since the number of provider institutions belonging to these two subject areas is huge, and the institutions are scattered throughout the country, interview would not have been practical; thus a questionnaire method was adopted. The open-ended-questionnaires were distributed to six institutions under *SAT*, and to 10 institutions under *HAS*, making a total of 16 respondents (i.e. $N \leq 30$ sample size) as shown in Table 5.3.

Table 5. 3 Provider institutions for the survey

Subject Board/Area	Institutions selected	Institutions category	
		Public	Private
Science and Allied Technologies (SAT)	6	5	1
Health and Allied Sciences (HAS)	10	6	4
Total	16	11	5

Documentation

The study used documentation as another method of data collection. Documentation or archival research includes both written and non-written documents. Written documents include a “book, newspaper or magazine, notice, letter”, and so on, whereas non-written documents include “film and television programmes, pictures, drawings and photographs” (Robson, 2002: 349). Fisher and Anushko posit that archival research or documentation provides “a rich set of data that can be used by further investigators to examine empirical questions about populations that may not be anticipated when information is first collected” (2008: 100). In this study, only written documents were used. Since “the state is the source of a great deal of information of potential significance for social researchers” (Bryman, 2001: 375), the study included the official documents from the Government and other governmental organisations such as NACTE; both published and unpublished.

Documents were collected from the Ministry of Education and Vocational Training (MoEVT), the Ministry of Health and Social Welfare (MoHSW), the National Council for Technical Education (NACTE), and the Government websites such as the Parliament of the United Republic of Tanzania website. The types of written documents collected included Government and institution publications, national policies, Acts, laws and other statutes relevant to the introduction of CBET in Tanzania; and the Ordinary diploma curricula for mining engineering and nursing as shown in Table 5.4 below.

Table 5. 4 Written documents collected for documentation study

S/N.	Document
1.	Report on the National Council for Technical Education (1996).
2.	Technical Education and Training Policy in Tanzania (1996).
3.	Brittain's Report on Education and Training Systems to the United Republic of Tanzania (1997).
4.	National Council for Technical Education Act, 1997 (No. 9 of 1997).
5.	National Council for Technical Education: Registration of Technical Institutions Regulations (2001).
6.	National Council for Technical Education: Accreditation and Recognition Regulations (2001).
7.	Summary Report on System of Quality Control and Quality Assurance for Technical Education Institutions (2003).
8.	National Council for Technical Education: Academic Quality Standards (2004).
9.	Curriculum for Ordinary Diploma (NTA Level 6) in Mining Engineering (Reviewed 2008).
10.	Curriculum for Ordinary Diploma (NTA Level 6) in Nursing (Reviewed 2008).
11.	National Public-Private Partnership (PPP) Policy (2009).
12.	Technical and Vocational Education and Training (TVET) Policy (2012) – Final Draft.

Apart from using the documentation, the approach was predominantly essential in the early stages of data collection as it provided backdrop information on the reasons which led to the introduction of CBET in Tanzania, debates regarding its introduction, major national and international entities involved, and its consequent development and implementation. Documentation also offered background information on the challenges facing the TVET system in the country and the need to develop a TVET policy to address the challenges. It further provided information on the major development initiatives such as the development of national technical qualifications framework (NTQF) and the NACTE Act.

This endeavour affirms Rapley's claim that "documents are often a wonderful source to discover and map specific discourses, especially as they document past and forthcoming (or foreshadow potential) changes in the legislation and/or the organization of society and social institutions" (Rapley, 2007: 13). Finally, the information gathered from documentation helped to plan for data collection as it

provided reference to key stakeholder groups either in Government or private bodies and associations that were then approached to participate in the study.

Preliminary investigation

In order to explore the ways in which the external and internal factors listed in Fig. 4.1 in Chapter 4 had influenced the Tanzanian CBET and the notion of competence, a preliminary investigation was conducted in Tanzania between 27th December 2011 and 13th January 2012 to obtain stakeholders' perceptions on the nature of these shaping forces. It involved conducting eight interviews with national policy makers, including the 'pioneers' of Tanzanian CBET. The preliminary investigation involved preparing two artifacts (open-ended questionnaire and interview) to collect views from the participants. The artifacts were organised around four main questions in order to stimulate responses from respondents:

- a) What factors given in Appendix I (Fig. 1) do you find to really influence the Tanzanian CBET debates and the notion of competence?
- b) Are there any other factors which you think influence the Tanzanian CBET debates and the notion of competence? If yes, please add them in Appendix I (Table 1).
- c) What priority in terms of impact (the most impact given priority number 1) do you give to each factor in Appendix I (Table 1) in as far as it influences the Tanzanian CBET debates and the notion of competence?
- d) Why do you think that the identified factor influences the Tanzanian CBET debates and the notion of competence?

Seven out of eight participants took part in the preliminary investigation and highly ranked the external factors (See Appendix I: Questionnaire in support of a preliminary investigation – respondents' views). On the other hand, factors under the internal theme received a more mixed ranking from respondents. The preliminary investigation findings had implications on the overall theoretical framework and research strategy. The findings indicated that all identified factors influence, at varied degrees, the Tanzanian CBET and the notion of competence

but with the external factors being seen as more influential. This may be attributed to opening of Tanzanian borders in the 1990s as a result of economic liberalisation with an unprecedented influx of external investors, mostly in mining, engineering, hospitality and tourism sectors and with new technologies and global influences that demanded a competent workforce with requisite attitudes and behaviours. This formed the essential background to the introduction of CBET, strategies and approaches in Tanzania. The findings also influence the theoretical model, in that the external and internal factors are not static but constantly evolving.

As the factors are 'mediated' and 'translated' (Spours *et al.*, 2007), CBET practices are reshaped (Fig. 4.1), challenging the country to create an environment conducive for further investment and production for socio-economic development. This endeavour situates the Tanzanian CBET in motion, traversing particular domain as confirmed by this research, in order to satisfy the requirements of the labour market heavily impacted by external influences. Due to high priority assigned to the external theme as portrayed by the initial findings from the preliminary investigation work, as well as the understanding drawn from discussion on external and internal factors influencing Tanzanian CBET (Appendix I) and in more detail under the section: *stakeholders' perception and translation of internal factors at work* in Chapter 6, it is evident that the Tanzanian CBET has much influence from external environment.

Pilot study

Before the actual fieldwork begun, I contacted sampled respondents from each category (interview and questionnaire) to participate in the pilot study in order to explore the appropriateness of the research tools in answering the research questions. This was necessary in order to "sieve out features likely to put respondents off; and also to de-bug the questions" (Munn and Drever, 1990: 31) so that all questions "mean the same to all respondents" (Bell, 2005: 14). For each category, sampled respondents were contacted.

From the 'unstructured interviews' category I contacted the Ministry of Energy and Minerals (MoEM), and the State Mining Corporation (STAMICO) of Tanzania; whereas from the 'semi-structured interviews' category, I contacted the Tanzania Portland Cement Co. Ltd falling under the mining firm category, and IST Clinic representing the health facility category. From the provider institutions category completing the questionnaire, the pilot involved the Water Development and Management Institute under Science and Allied Technologies (SAT) Subject area and the Morogoro School of Public Health Nursing under Health and Allied Sciences Subject area.

Despite close follow-ups, I only managed to get feedback from the provider institutions category. The rest of the categories sent me official letters with information that they are very busy with other commitments and thus could not attend to my interviews. However, some gave me alternative contacts for the interviews. Notwithstanding the given alternatives, I decided to make my own contacts in similar firms or institutions to participate in the pilot study; this bore fruitful results. Together with the feedback I managed to get from the two provider institutions, I found out that some questions were not well understood by some respondents. The questions which were misunderstood were:

- a) In what ways (or how) do you think the concept of competence/CBET may become more successful or a better guide to action?
- b) In your opinion, what opportunities are there for technical institutions producing CBET graduate technicians to work closer with industry?
- c) Please give me your views on the extent to which you think our public/private technical institutions equip graduate technicians to contribute to the building of social cohesion.

With interviews this was not a big problem since clarification was ensured either by giving an explanation on the intention of the questions on the spot or a follow-up or probe question was asked to inquire for further explanations from the respondent. For the questionnaires, clarification for each question was provided before they were posted to the respondents. Since the study asked a set of

common questions for related categories, the sampled respondents sufficed to confirm the appropriateness of the research tools in answering the research questions. Further, whenever completed questionnaires brought back to me were found to be still having misunderstandings on the same questions above, I decided to call the respondent for clarifications and requested him/her to revise responses to questions whenever necessary to avoid misinterpretations.

Ethical issues

This study was conducted in accordance with British Educational Research Association's Ethical Guidelines for Educational Research (BERA, 2011). Foremost, before starting my fieldwork, I ensured that the *Ethics Approval for Doctoral Student Research Projects: Data Sheet* was appropriately filled-in and submitted for ethical approval consideration; and that approval to proceed for fieldwork had been granted in accordance with BERA's Ethical Guidelines for Educational Research (ibid).

As a researcher, I endeavoured "to introduce a moral perspective to the way" I designed and conducted my investigations (Denscombe, 2010: 59). Before starting fieldwork, I ensured that written consent had been obtained from institutions and participants planned to take part in this study for ethical reasons (see official letter in Appendix II). I needed to "operate within an ethic of respect for any person involved directly or indirectly" (BERA, 2011: 5) in this research. Since the participants to this study were adults (*pioneers of CBET in Tanzania, senior officials working in Government, employers association, professional associations, supervisors of mining engineering and nursing employees who followed CBET approach in sampled firms in Tanzania, as well as provider institutions*) I endeavoured to undertake the following responsibilities (BERA, 2011):

Voluntary informed consent

I sought the participants' consent to confirm that they understand and "agree voluntarily to participate" (Christians, 2005: 144) in the study "without any duress, prior to the research getting underway" (BERA, 2011: 5) since an "informed

consent is fundamental to the rights of any participant in research” (Denscombe, 1998: 67). I ensured that “all pertinent aspects of what is to occur and what might occur are disclosed” (ibid: 67) to the participants so that their agreement to participate is based on full and open information” (Christians, 2005: 144). These included issues like: my introduction, where I come from, my employer (NACTE), and my position as a senior official in NACTE; the purpose of my research, and how the data would be treated. Given my position in NACTE, which was known to respondents, I endeavoured to maintain objectivity by trying to foresee likely conflicts and making a plan to deal with them (Robson, 2002). Some respondents commented that they were privileged to give me their views hoping that they would be worked on to contribute to improving CBET system in the country. However, I informed them that future collaboration is a distinct possibility. I discussed with them about the issue of the subjective nature of researching my own practice, and possibility of a lack of impartiality. I declared that I do not have any vested interest in certain results being achieved, thus affirmed my resolve to address problems concerning a fresh and objective view of data. I made it clear that what I needed was their honest opinion and should not be influenced by my position as an insider-researcher. Thus I endeavoured to give careful attention to gathering data as an insider, especially concerning “questions about insider bias and validity” (Murray and Lawrence, 2000: 18). I assured them of their anonymity and strict confidentiality to provided information.

Openness and disclosure

As a researcher, I undertook to “operate in an honest and open manner” with respect to my investigation (Denscombe, 1998: 144). I openly declared the purpose of the research to participants, was open about whom I am and my roles and responsibilities in the research. Purposeful misrepresentation of research purposes and consequent use of the data was avoided. Since it is unlikely that the research activities “would jeopardize the research aims” (Denscombe, 1998: 149) deception and or subterfuge was avoided by “securing participants’ voluntary informed consent, before research [got] underway” (BERA, 2011: 6).

Right to withdraw

I ensured that participants were made aware of the fact that “it is their right to withdraw their consent at anytime.....should they wish to do so” (Denscombe, 1998: 147); and I was ready to “accept the participants’ decision to withdraw” (BERA, 2011: 6).

Incentives

In this research, use of any incentives to encourage participation of any participant was highly avoided and discouraged.

Privacy

During the course of this research, significant efforts were made to safeguard confidentiality and anonymity of personal identities and data. In accordance with research guidelines, I endeavoured to recognise participants’ entitlements to privacy and accorded “them their right to confidentiality and anonymity” (BERA, 2011: 7). However, due to necessity of this research, particularly my plan to engage the organisations on a longer-term CBET reform process in Tanzania, I chose to name the organisations of my respondents. This involved an ethical compromise involving a trade-off between the purity of these principles and the power of the research to communicate realities to the reader. Nevertheless, I took steps to guard anonymity by not stating the role of the individuals involved in the research. Moreover, I returned to the participating organisations named in order to reaffirm their consent to be named in the research. I plan to discuss the outcomes of my research with respondents following the viva, but any anonymised data or information such as names of participants and recorded interviews will be destroyed as soon as they are no longer needed.

Potential difficulties (Limitations)

The first limitation in this study emanated from lack of representativeness of the case study approach. As affirmed by Kalof and colleagues, “the greatest limitation of case study research is the lack of generalizability” which concerns drawing “conclusions about a population based on data from a sample” (Kalof *et al*, 2008: 144). As explained in the previous sections, there are many mining

firms employing mining engineering technicians as well as many healthcare centres employing nursing technicians in the country. However, only a few were selected to take part in this study as a sample of cases for in-depth interviews. Unlike statistical researches which “devote much efforts to trying to make the sample as representative as possible” by involving a “large sample of cases that is representative of and allows inferences about a larger population of cases from which the sample is drawn” (George and Bennet, 2006: 31), the case study approach requires the selection of cases that are necessarily unrepresentative of wider populations and involves contingent generalisations which apply to other cases similar to those under study.

Though the case study approach may generate great explanatory richness within a case, it may be at the expense of less explanatory power across other types of cases (ibid). Thus, there is need of being cautious with “overgeneralizing” the findings to types of cases different from those actually studied (ibid: 32). Whereas great care was employed in selecting the cases for this study, methodological limitations may still apply. Consequently, the findings to be drawn from the selected cases need to be considered from the context of the nature of the cases used to generate them.

The second limitation stemmed from uncontrollable external influences which involved having in the sample state representatives in the MoEVT and MoHSW as well as professional associations such as TANNA who had different views about implementation of CBET in the country which are influenced by their functions and relationship to the state. As a result, I had mixed feelings about CBET practices in the country, which had to be critically cross-checked with the views of other stakeholders to establish their validity and reliability; thus working towards removing a probability of bias in their responses, which may however be difficult to eliminate completely.

Lastly, the study was limited to the perspectives of pioneers, policy makers, employer and professional associations, employers and provider institutions at a national, regional and district levels, as shown under the selection process and in data analysis and findings discussed in the next chapter. More insights into the

competence and CBET challenges could be obtained from a sectoral level analysis in which perceptions of stakeholders in particular sectors (i.e. tourism, management, social work, etc.) could be sought to provide a wider scope of analysis at each sectoral level. This would also involve seeking the views of CBET graduates about the notion of competence and CBET generally within the respective sectors in the country. Due to limited resources available for the study such as funds and time the research was restricted to the selected samples. By adopting a qualitative inquiry, I had only a few stakeholder groups whose experiences would not be generalised to speak for the CBET experiences across all the sectors in Tanzania. The limitations could be addressed in future research.

Data analysis

Robson affirms that “the central, totally indispensable, part of a real world enquiry is the collection of data” (Robson, 2002: 385). Once data is collected, “the next step is analysis” (ibid: 385). Analysis concerns “the representation or reconstruction of social phenomena” (Coffey and Atkinson, 1996: 108). The process of data analysis involves “preparing the data for analysis, conducting different analyses, moving deeper and deeper into understanding the data, representing the data, and making an interpretation of the larger meaning of the data” (Creswell, 2003: 190).

In this research all interviews were audio-recorded. Preparation of this data for analysis involved transcribing the interviews. For the participants that preferred and used Swahili language during the interview the transcription of the Swahili interview was first done and later translated from Swahili to English. For data collected via documents and questionnaires, preparation for analysis involved “typing up fieldnotes, or sorting and arranging the data into different types depending on the source of information” (ibid: 191). Doing this entailed reading through the data in order to “obtain a *general sense* of the information and to reflect on its overall meaning” (Creswell, 2003: 191: emphasis in original). This was followed by a coding process in which the material for each transcript were organised into pieces of discrete information before meaning would be conveyed to the pieces. Pieces of discrete information in the form of text data, or sentence

segments or paragraphs were organised into categories, appropriately labeled and grouped to generate themes (Coffey and Atkinson, 1996; Flick, 2006).

In this study thematic analysis was carried-out using a word processor (Microsoft Office Word processor) recognising the fact that “word processors are a boon in storing, organizing, and keeping track of data” (Robson, 2002: 461). The word processor was also helpful “with the coding task through ‘copy’ and ‘paste’ functions” (ibid). Although there are many available specialised software packages designed to help with qualitative data analysis such as **NVivo**, the essential downside of their use was “the time and effort needed to become proficient” in their use (ibid: 463). Consequently use of the word processor was considered sufficient in this study based on the fact that the facilities provided in the package were adequate for the analysis required. Since fieldwork involved interviewing different participants, it was expected that differing views on the Tanzanian CBET and the competence would be found, affirming what Flick terms “the social distribution of perspectives on a phenomenon or a process” (Flick, 2006: 307). Thus, the analysis and interpretation of data was a multi-stage procedure in which after the first phase case analyses, developed categories were cross-checked and “thematic domains linked to the single cases” (ibid: 308). This resulted into a thematic structure, “which underlies the analysis of further cases in order to increase their comparability” (ibid: 308).

The second phase case analyses involved meta-analysis where common themes were singled out from the cases to form major findings displaying perceptions of research participants. The “multiple perspectives from individuals” were further analysed in order to make an “*interpretation* or meaning of the data” (Creswell, 2003: 194: emphasis in original). Use of multiple sources of evidence in this study such as cross interviews comparison, and findings from questionnaires was a kind of ‘triangulation’ which was adopted to ensure and increase validity (Yin, 1994; Bryman and Burgess, 1996; Stake, 1995).

In order to systematically carry out the analysis and reflect upon the perceptions of the Tanzanian CBET stakeholders on the possible emerging Tanzanian concept of competence and the conditions for its successful implementation in

national and global contexts the analytical framework discussed below was adopted.

Analytical framework

The analytical framework intended to provide a practical tool to guide first in designing the analysis, and secondly in conducting the analysis of the perceptions of the Tanzanian CBET stakeholders (research participants). The possible emerging Tanzanian concept of competence is informed by various external and internal factors acting on the Tanzanian CBET. Identification of influencing factors was supported by critically examining the conditions that led to the introduction of CBET in the country. This examination revealed that a local lens was cast on the external CBET environment by what I call 'CBET pioneers' and other key stakeholders in order to understand the concept of competence and how CBET is managed globally. The casting of the local lens was done through visits abroad to countries which had CBET in operation which then "became the magnet for policy pilgrimage" (Steiner-Khamsi, 2006: 672). Together with casting the lens on the external environment, on coming back, the pioneers and other key stakeholders had to reflect on the internal environment through what I call an 'inward looking' in form of internal analysis to assess the internal environment to accommodate CBET in order to build on the local experiences and avoid duplication of efforts.

For this new movement to be effective the group ensured that CBET policy was initiated in the country and CBET "policy discourses" (Bowe *et al.*, 1992: 19) were constructed. The group formulated social networks to market the CBET policy to the political actors at public policy level in the country, providing what Bowe *at al.* term the "private arenas of influence" (ibid: 19). The social networks created provided the arenas of influence at either political, Government, legislative process, or in various "committees, national bodies, representative groups" in order to develop and produce CBET policy documents forming what Bowe *et al.* describe as the "context of policy text production" (ibid: 20).

When the CBET policy text was produced then there followed the processes of CBET interpretation and “conscious adoption in one context of policy observed in another” (Phillips and Ochs, 2004: 774), a process Phillips and Ochs term ‘policy borrowing’. Various stakeholders worked with the pioneers and other key stakeholders to interpret, adopt the CBET policy and sometimes ‘recreate’ it during CBET development and implementation, thus falling within what Bowe and colleagues term the “context of practice” (Bowe *et al.*, 1992: 21).

CBET development and implementation are carried out by the key actors or translators of the external and internal factors influencing the Tanzanian CBET through the acts of “mediation” and “translation” (Spours *et al.*, 2007: 194); the processes examined in this research to evaluate the performance of this hybrid-CBET (Priestley, 2002) against the existing assumptions of the competence model as previously discussed under the contextual literature work and theoretical framework.

The operationalisation of CBET within the context of practice as the CBET actors and translators are mediating and translating various external and international factors faces copious local CBET operational implications and challenges related to the “limitations of policy borrowing” (Steiner-Khamsi, 2006: 666). However, the results of policy pilgrimage, the construction of CBET discourses through the arenas of influence, context of CBET policy text production, and context of practice, and CBET mediation and translation could be viewed as a process of ‘policy learning’ (Raffe and Spours, 2007) where international comparisons is made to inform internal reflection rather than mechanical copying. Thus, the nature and degree of whether the process was ‘policy borrowing’ or ‘policy learning’ was investigated through conducting a qualitative study involving in-depth interviews, questionnaires and document analysis.

The multi-methods approach used to analyse the key stakeholders’ views was intended to augment the findings from the conceptual literature work and the theoretical framework in order to address not only the Tanzanian concept of competence, but a wider skill-based system; whose interpretation was done through the lenses of “skill ecosystems” and the ways in which a range of factors

interact to affect skill levels (Hall and Lansbury, 2006: 586-90; Finegold, 1999). In order to provide effective analysis, the following analytical approach guided by the analytical framework was adopted.

The analytical approach

The analysis of the key stakeholders’ views for realisation of the central aims of this study, which is to explore CBET manifestations and implications globally and their influences on the Tanzanian CBET and the notion of competence developed in this national context, could be better assured through the application of three related conceptual tools namely, the *local lens on external and internal CBET environments*, the *understanding of local CBET mediation and translation processes*, and the *local CBET operational implications* (Fig. 5.2).

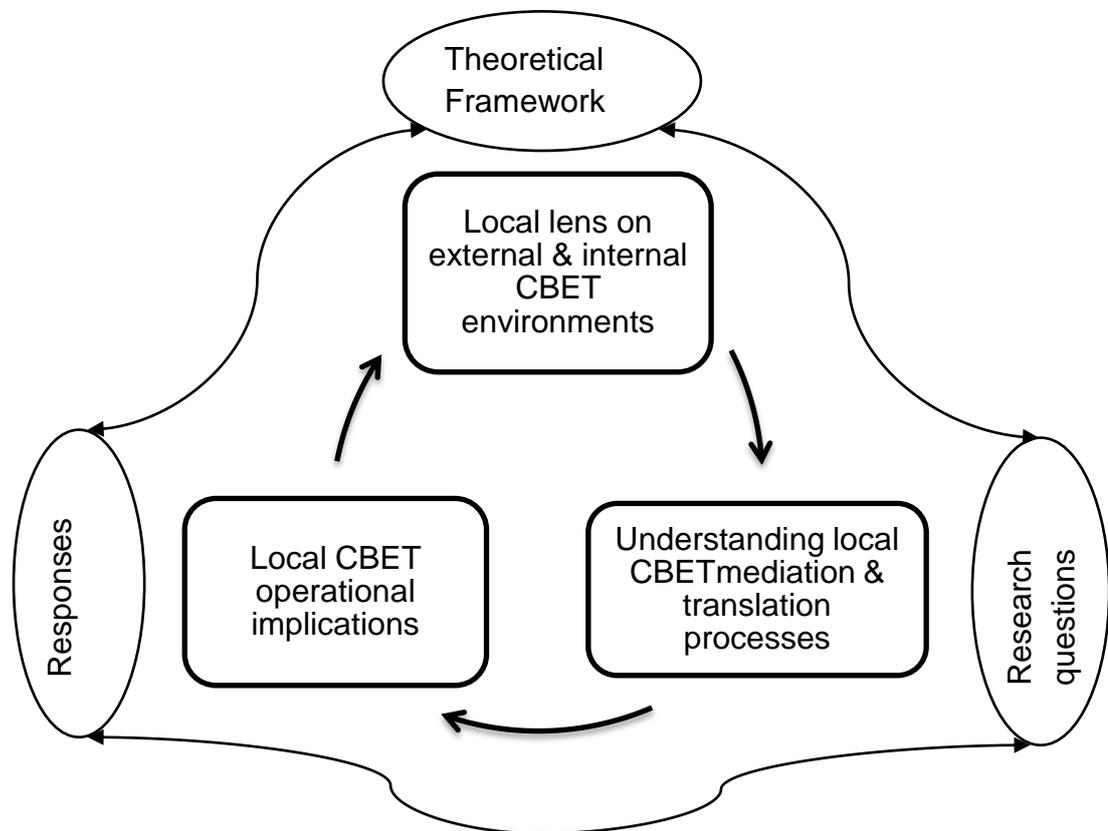


Figure 5. 2 Tanzania CBET practices: Analytical framework

The three analytical tools are discussed in conjunction with three more tools (Fig. 5.2) namely the *theoretical framework*, *research questions*, and *responses* in order to augment the findings from the conceptual literature work and the

theoretical framework. Consequently, using the additional layer of *theoretical framework*, *research questions* and *responses* formed a mapping frame to allow discussing the stakeholders' views in a continuous fashion, engaging "in the process of moving in analytic circles rather than using a fixed linear approach" (Creswell,1998: 142).

The framework aimed specifically to:

- a) Facilitate deeper understanding on the use of the local lens to study global influences in a form of policy borrowing and to provide a discussion of its limitations within the local context.
- b) Present more focused explanations of how different actors interact in the CBET mediation and translation processes within different institutional contexts and how these interactions affect skill formation in the country.
- c) Facilitate independent analysis and interpretation of local CBET operational implications through the lenses of 'skill ecosystems' and the ways in which a range of factors interact to affect skill levels.
- d) Offer an explanation of how interventions may be provided to strengthen the CBET system.

Thus, the purpose of the analytical framework was to facilitate exploration of the various Tanzanian CBET stakeholders' perceptions on the notion of competence generally and specifically the capacity of CBET to develop competences and promote skill formation for the Tanzanian workforce. While this analytical framework had been developed to reflect on the Tanzanian CBET practices, it may be applicable to reflect on CBET practices elsewhere globally; thus promising a wider application.

Framework of questions and emerging themes

In this study diverse key stakeholders were either interviewed or completed the questionnaires as explained in the previous sections in this current chapter. Common questions were used for both interviews and questionnaires, though

with slight differences for the pioneers as shown in Table 5.5; save for the mining firms and nursing facility (i.e. hospitals) which had same questions.

Table 5. 5 Framework of questions

S/N.	Questions	Key stakeholders groups				
		Pioneers	Policy Makers	Employers Association	Professional Bodies	Provider Institutions
1.	Why did you become interested in the concept of competence/competence-based education and training (CBET)?	√				
2.	What were the main influences of your thinking?	√				
3.	What did you produce, and why?	√				
4.	How do you think the CBET system has developed ever since? What challenges does it face? What is the future CBET vision?	√				
5.	What do you understand by the concept of competence-based education and training (CBET)?		√	√	√	√
6.	What do you think are the strengths and weaknesses of the Tanzanian CBET approach?	√	√	√	√	√
7.	In what ways (or how) do you think the concept of competence/CBET may become more successful or better guide to action?		√	√	√	√
8.	How might it be developed?		√	√	√	√
9.	In your opinion, what opportunities are there for technical institutions producing CBET graduates (i.e. technicians) to work closer with industry?	√	√	√	√	√
10.	Given that workplace practices change from time to time, please give me your views on how our public/private technical institutions should equip graduates to adapt effectively to change.	√	√	√	√	√
11.	Please give me your views on the extent to which you think our public/private technical institutions equip graduates to contribute to the building of social cohesion.	√	√	√	√	√

The interviews were administered to 16 respondents, which included all of the key stakeholder groups planned to participate in this study (i.e. 100% response rate). All interview respondents were given codes to observe anonymity and confidentiality before the interviews were transcribed and those done in Swahili translated into English as shown in Table 5.6.

Table 5. 6 Coding of interview respondents

S/N.	Category	Department/Sector	Interview date	Interviewee code
1.	Pioneers of CBET in Tanzania	Retiree	05/10/2012	R01
2.		Retiree	11/10/2012	R02
3.		Retiree	31/10/2012	R03
4.		Executive Officer	12/10/2012	R04
5.	The State (Policy Makers)	Ministry of Education and Vocational Training (MoEVT) . Senior Officer	06/10/2012	R05
6.		Ministry of Health and Social Welfare (MoHSW) . Senior Officer	17/01/2013	R06
7.	Employers/Professional Associations	Association of Tanzania Employers (ATE) . Senior Officer	08/11/2012	R07
8.		Tanzania Chamber of Minerals and Energy (TCME) . Senior Officer	18/01/2013	R08
9.		Tanzania National Nurses' Association (TANNA) . Senior Officer	17/12/2012	R09
10.	Employers (Mining industry)	Geita Gold Mine (GGM) . Senior Engineer (Supervisor 1)	21/11/2012	R10
11.		Geita Gold Mine (GGM) . Senior Engineer (Supervisor 2)	21/11/2012	R11
12.		Williamson Diamond Limited (WDL) . Senior Engineer (Supervisor)	24/10/2012	R12
13.	Employers (Nursing industry)	Bagamoyo District Hospital (BDH) . Senior Nurse (Supervisor)	09/11/2012	R13
14.		Bagamoyo District Hospital (BDH) . Senior Nurse (Supervisor)	09/11/2012	R14
15.		Amana District Hospital (ADH) . Senior Nurse (Supervisor)	15/11/2012	R15

16.		Muhimbili National Hospital (MNH) - Senior Nurse (Supervisor)	17/12/2012	R16
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The questionnaires were administered to nineteen (19) provider institutions, out of these eighteen (18) responded giving 94.7% return rate. This return rate was reached following an official letter which I addressed to the heads of provider institutions requesting for “respondents’ consent to participate” in the study for ethical considerations (Bell, 2005: 156). The letter requested the Principal to talk to the trainers and ask at least two of them to participate in the study. I managed to obtain positive consent from the trainers who sent me their mobile numbers and email addresses for communication and posting of the questionnaires by email. For each returned questionnaire a code was provided to maintain anonymity as shown in Table 5.7 below.

Table 5. 7 Coding of responses from provider institutions respondents

S/N.	Name of Institution	Returned Questionnaires	Receipt date	Respondent code
<i>Provider institutions under Science and Allied Technologies (SAT) field</i>				
1.	Mineral Resources (Madini) Institute - (Public) - Senior Officer (Tutor)	2	31/08/2012 27/09/2012	Q01 Q02
2.	Dar es Salaam Institute of Technology (DIT) - (Public) - Senior Officer (Lecturer)	2	09/10/2012 09/10/2012	Q03 Q04
3.	Mbeya Institute of Science and Technology (MIST) - (Public) - Senior Officer (Lecturer)	2	02/10/2012 04/10/2012	Q05 Q06
4.	Arusha Technical College (ATC) - (Public) - Senior Officer (Lecturer)	3	17/09/2012 19/09/2012 19/09/2012	Q07 Q08 Q09
5.	Karume Institute of Science and Technology (KIST) - (Public) - Senior Officer (Tutor)	2	17/09/2012 05/10/2012	Q10 Q11
6.	St. Joseph College of Engineering and Technology (SJCET) – (Private) - Senior Officer (Lecturer)	1	03/12/2012	Q12
<i>Provider institutions under Health and Allied Sciences (HAS) field</i>				
7.	Mirembe School of Advanced Psychiatry Nursing – (Public) - Senior Officer (Tutor)	2	26/09/2012 05/11/2012	Q13 Q14
8.	Nkinga Institute of Health Sciences – (Public) - Senior Officer (Tutor)	2	26/09/2012 18/10/2012	Q15 Q16
9.	Bugando School of Nursing – (Public) - Senior Officer (Tutor)	2	02/10/2012 02/10/2012	Q17 Q18
10.	Ndolage School of Nursing – (Private)	2	10/09/2012	Q19

	- Senior Officer (Tutor)		07/11/2012	Q20
11.	Rubya School of Nursing and Midwifery – (Private)	2	10/09/2012	Q21
	- Senior Officer (Tutor)		08/10/2012	Q22
12.	Huruma School of Nursing – (Private)	2	13/10/2012	Q23
	- Senior Officer (Tutor)		03/11/2012	Q24
13.	Kibosho School of Nursing – (Private)	2	25/09/2012	Q25
	- Senior Officer (Tutor)		02/11/2012	Q26
14.	KCMC School of Nursing – (Public)	1	24/09/2012	Q27
	- Senior Officer (Tutor)			
15.	Newala School of Nursing – (Public)	1	27/09/2012	Q28
	- Senior Officer (Tutor)			
16.	Kolandoto School of Nursing – (Public)	0	-	-
Provider institutions that took part in the Pilot study				
17.	Water Development & Management Institute (WDMI) – (Public) - Senior Officer (Lecturer)	1	17/08/2012	Q29
18.	Morogoro School of Public Health Nursing – (Public)	1	17/08/2012	Q30
	- Senior Officer (Tutor)			

I worked on the responses provided by each respondent to generate preliminary codes formed by statements from individual transcripts and questionnaire responses that represented elemental perspectives per question. Every individual respondent was independently analysed. The individual analysis involved comparing the emerging patterns within the data corpuses of other participants in the same stakeholders group (Patton, 2002) resulting into identification of preliminary codes. Coding was done sometimes line by line, sentence by sentence and conceptualised, and re-conceptualised (Flick, 2009; Foss, 2007) by critically examining the data in order to come up with good codes that would result in generating meaning (Miles and Huberman, 1994).

Preliminary codes generated were shaded with a particular shaded color; this was the first round that covered all respondents within each key stakeholders group. For example, analysis of an interview with one pioneer generated codes such as *context of CBET learning, analysis of problems prior to CBET, definition of competence and CBET, analysis of challenges after CBET introduction, CBET teaching and learning experiences, acceptability of CBET by key stakeholders, CBET regulatory frameworks and structures, CBET implementation environments, networks between industry and provider institutions, re-training of trainers in CBET methods of training approach, expectation of CBET to improve*

workplace skills, expectation of CBET to develop soft skills and normative behaviour, and many other codes that produced emerging concepts.

The second round of codes generation involved comparing and combining preliminary codes of all individuals within the key stakeholders group to create another level of codes now with more meaning compared to the preliminary ones; again I shaded them with a different shade color. This procedure was followed for all the key stakeholders groups as shown in Table 5.6 above, in which more than five (5) shed colors were assigned to all the groups.

Having done this with all the groups I then worked among and across the groups to combine codes with similar perspectives in order to generate preliminary themes addressing the research questions as shown in Table 5.8 below. This was an iterative process which involved going through the transcripts and questionnaire responses to compare and contrast obtained codes, examining their similarities, differences, and noting available patterns in the data. This process was associated with reflection on and revision of the codes or the preliminary themes as well as combining them to generate themes that would enhance meaningful conclusions. The back and forth process was continued until stable themes with meaningful perspectives were generated.

Table 5. 8 Matching research questions, CBET key stakeholders and preliminary themes

Research Questions (RQs)	Key stakeholders	Preliminary themes
Part 1 To answer RQ 1, 2 & 3	Pioneers of CBET in Tanzania	1. Stakeholders' understanding of the concept of competence (e.g. balance of knowledge, skills and attitudes) 2. Local mediation/translation effects 3. Infrastructural support for CBET implementation 4. Industry-provider institutions linkage to support skills/
	The State (policy makers) – MoEVT, MoHSW	
	Employers Associations – ATE, TANNA, TCME	
	Provider institutions	
	Employers: Mining Engineering & Nursing case studies	

		<p>competence development</p> <p>5. The role of CBET in promoting social cohesion and normative behaviour</p> <p>6. Differences of views of various stakeholders according to their function and relationship to the state</p>
<p>Part 2</p> <p>To answer RQ 2, 4, 5</p>	All stakeholders	<p>7. CBET as a modernising and opening influence</p> <p>8. Factors working for and against this modernisation approach</p>
<p>Part 3</p> <p>To verify responses to RQs 1, 2 & 3, & RQs 4, 5 at a national level</p>	All stakeholders	<p>9. Acceptability of CBET for skill-formation and competence development now and in future</p>

The process of generating themes was not a straightforward task; it entailed development of categories of themes and concepts as they emerged from the data and then further explored literature to see how it backed up or contrasted with my observations. This process was continued until finally coming up with themes that spoke to all the participants as given in Table 5.9.

Table 5. 9 Generation of the final themes

S/N.	Final codes	Preliminary themes	Final themes
1.	<i>Context of CBET learning</i>	1.Stakeholders' understanding of the concept of competence (e.g. balance of knowledge, skills and attitudes)	1.Stakeholders' understanding of the concept of competence and CBET
2.	<i>Problems prior to CBET</i>		
3.	<i>Definition of competence & CBET</i>		
4.	<i>Challenges after CBET introduction</i>	2.Local mediation/translation effects	2.Local mediation and translation effects
5.	<i>CBET regulatory frameworks & structures</i>		
6.	<i>CBET implementation environments</i>	3.Infrastructure support for CBET implementation	3.Networks between industry and provider institutions to support competence
7.	<i>Networks between industry & provider institutions</i>	4.Industry-provider institutions linkage to support skills/ competence development	

			development
8.	<i>Expectation of CBET to develop soft skills and normative behaviour</i>	5.The role of CBET in promoting social cohesion and normative behaviour	4.The role of CBET in promoting social cohesion and normative behaviour
9.	<i>Expectation of CBET to improve workplace skills</i>	6.Differences of views of various stakeholders according to their function and relationship to the state	5.CBET as a modernising and opening influence
10.	<i>Acceptability of CBET by stakeholders</i>	7.CBET as a modernising and opening influence 8.Factors working for and against this modernisation approach 9.Acceptability of CBET for skill-formation and competence development now and in future.	

Reporting structure led by adopted analytical approach

The reporting structure is based on the emerging key themes (see Table 5.9) that addressed the five research questions, where the *local lens on external and internal CBET environments*, the *understanding of local CBET mediation and translation processes*, and the *local CBET operational implications* conceptual tools are applied in conjunction with the *theoretical framework*, *research questions*, and *responses* additional analytical tools to provide a discussion of the stakeholders views (Fig. 5.2). The structure provides a cyclical analytical process of the key stakeholders' views on the evolution of CBET and understandings of competence and its efficacy in addressing the challenges of skill formation in Tanzania augmented by the findings from the conceptual literature work, the theoretical framework, and document analysis. The study findings, discussion and analysis of stakeholders' views are covered in Chapter 6.

CHAPTER 6: STAKEHOLDERS' VIEWS, DISCUSSION AND ANALYSIS OF STUDY FINDINGS

Introduction

This chapter seeks to explore key stakeholders' perceptions on the concept of competence and CBET, and their experiences with CBET practices in Tanzania in order to understand the possible emerging Tanzanian concept of competence and the conditions for its successful implementation in national and global contexts. The exploration recounts the way the concept of competence and CBET came about in Tanzania, and how it was mediated and translated by the key actors in the country. It also provides narratives and experiences of the study respondents as they shared with me their 'worldviews' on the concept of competence and CBET, its emergence and assumptions on developing competence of the Tanzanian workforce. In addition, the chapter provides a discussion and analysis of the study findings from the stakeholders' viewpoints and in contrast with my interpretation while distancing myself from imposing prescription of their experiences.

Seeking the key stakeholders' perspectives on the concept of competence was strategically taken to complement the aims of the study that has been a search of understanding of the origins of the concept of competence and CBET; and the possible emerging Tanzanian concept of competence. In the quest to address the central study aims I conducted a literature review and presented a debate on the origins of the concept of competence and CBET through background literatures in the six countries (*USA, UK (England), Australia, the Netherlands, Germany, and South Africa*) I regarded as having contemporary CBET practices. The information obtained from the literatures was used to discern the various approaches of CBET – *behaviourist, generic, integrative (cognitive), and social-constructive* approaches, which were discussed and later led to mapping CBET development trajectories within the six countries. The implications of the global CBET on the Tanzanian CBET were identified and confirmed through conducting the preliminary investigation in Tanzania. Preliminary discussion was given on the emergence of CBET in Tanzania and the reasons which led to its emergence;

key reasons being liberalisation of the Tanzanian economy in the 1990s coupled with globalisation and technological advancements which I discerned as both external and internal factors influencing the introduction of CBET in the country. The views of key stakeholders were thus sought to understand the way they constructed and interpreted ideas about the notion of competence and CBET and how they see CBET development and implementation practices in the country.

The reporting structure of the respondents' narratives and experiences is informed by the adopted analytical approach discussed in Chapter 5 in which the views of the 16 interviewees and 28 questionnaire respondents are presented based on the emerged key themes that address the five research questions given on page 26 in Chapter 1. By addressing the research questions through guided inquiry in interviews, survey and documentation it was possible to obtain the stakeholders' perspectives on the notion of competence, its emergence in the country and implementation practices.

The key emergent themes

The interviews and survey revealed five key themes which represented their views on their understanding of the notion of competence and CBET, and the way they see CBET implementation in the country:

- a) Stakeholders' understanding of the concept of competence.
- b) Local mediation and translation effects.
- c) Networks between industry and provider institutions to support competence development.
- d) The role of CBET in promoting social cohesion and normative behaviour.
- e) CBET as a modernising and opening influence.

By presenting their views on the five major themes, it was possible to provide what resulted from the continuous interactions with research participants through listening to their voices. Led by the analytical framework, I began presenting the findings from the CBET pioneers who through the process of 'policy borrowing' opened up the platform for the discussion about the introduction of CBET in Tanzania. As the adopted reporting structure provides a cyclical analytical

process, the views of all stakeholders supporting each emerged theme were presented and interwoven through discussion and analysis to convey key issues that develop from their narratives and experiences of CBET in the country.

Some of the major findings from the stakeholders' experiences and perspectives include: **(a) *The version of competence understood by the stakeholders.*** This is discussed by reflecting on the influence of the 1967 Tanzania's philosophy of education for self-reliance, the understanding of competence due to policy borrowing, and stakeholders' views about the breadth of competence. **(b) *Understanding local mediation and translation effects;*** which are discussed by looking at *(i) Stakeholders' perception and translation of external factors at work, (ii) Stakeholders' perception and translation of internal factors at work; (iii) CBET employees' competences from the perspectives of employers.*

Discussion of internal factors at work is done by looking at the *influence of wider historical and societal factors since independence, as well as the role of mediating bodies and the lack of capacity (i.e. Government, trade unions, regulatory bodies, labour markets, employers and technological change, educationalists, and Government's support to CBET implementation environment).* **(c) *Conceptualisation of relationship between external and internal factors at work;*** which is discussed in the light of the 'high-skill ecosystems' concept and the way I view this theoretical approach revealing the dynamic interaction of external and internal factors to bring about equilibrium. The discussion also suggests the way we might conceptualise the relationship between these external and internal factors – as a form of static equilibrium that 'locks' the concept of competence in the Tanzanian context (i.e. *TVET policy and regulatory framework, focus on framework building and not on capacity building, weak networking, role of CBET in promoting social cohesion and normative behaviour, and issues of governance*).

Part I: The genesis of the concept of competence in Tanzania

Introduction

The stakeholders' understanding of the concept of competence was greatly influenced by their exposure to either external or internal CBET environments or both depending on their work experiences. Exposure to external CBET environments played a significant role in the perception of most stakeholders about competence and their understanding of perceived CBET's potential for improving skill formation given the prevailing socio-economic environment in the country. Subject to the socio-economic environment as a result of the 1990s economic liberalisation that opened Tanzania borders, the country witnessed an unprecedented influx of external investors with new technologies and global influences that demanded a competent workforce in various sectors of the economy. Thus, the stakeholders' views and understanding of CBET was not only influenced by the internal socio-economic environment, but also to a large extent by their exposure to the external environment in a quest to study the education systems elsewhere in order to address the labour market demand.

Besides answering the research questions, the stakeholders' views and experiences cast light on how the socio-economic and political contexts influenced CBET implementation practices in the country. It was noted that as the stakeholders revealed their CBET operational experiences and what they construe as a competent individual, they revealed something about the experiences of Tanzanian society as a whole regarding the challenges of work values, social norms, and normative behaviour demand of competence.

Environmental scan by stakeholders to understand the concept of competence

In order to elicit the stakeholders' understanding of the concept of competence and CBET, one of the conceptual tools within the analytical framework - *local lens on external and internal CBET environments* is applied to provide a presentation of the views of the stakeholders.

Local lens on external CBET environments

The findings revealed that exposure to external CBET environments played a major role in stakeholders' understanding of the concept of competence and CBET more generally. Respondent R01, who is a retiree in the Ministry of education and a pioneer of CBET in the country, posited that attending a seminar and workshop delivered by UNESCO in the country on "training in modules" introduced him to the "advantages of delivering training programmes in terms of modules". Modules are self-sustained portions of a programme taught in such a way that "you can learn some modules, go to work, and return to finish remaining ones until you complete studies". R01 became interested in the modular approach which was very flexible and "the most appropriate approach to train especially in skills training". He argued that "if you talk of modular approach you are talking about CBET system approach". R01's main influence to think of CBET as the best approach to deliver technical education and training was through working with a German colleague in 1982 in one technical institution in Tanzania where the training then "was similar to competence-based, though not named CBET". He stated that the "training was more practical than theoretical". R01 further posited that "competence-based considers both hard skills and soft skills"; where hard skills meant the technical knowledge, or physical skills, mostly involving psychomotor learning, whereas soft skills imply attitudes, behaviour or traits of a person. He commented that "our institutions are to a large extent providing sufficient hard skills". However, R01 argued that something is missing:

"We have tended to forget to include some access to soft skills in our curriculum. Soft skills availability in a curriculum is taken for granted, though not always correct. We tend to take for granted issues like going to work late, underperforming in workplace, commitment, work ethics and social values demanded in our society. These are soft skills; they are cultural aspects which need to be cultivated".

Following from R01's discussion, though competence is understood to include skills, knowledge, understanding and wider attributes (i.e. soft skills, attitudes) in Tanzania, the operational understanding is more on hard skills. R01 confirmed that development of soft skills is still a big challenge, and that "we have not

seriously included them in the modules”. R01 asserted that for the term competence to be all-encompassing, soft skills need to be seriously included in the modules within the competence-based curriculum.

Respondent R04, a pioneer of CBET in the country, while answering the question about why he became interested in the concept of CBET, stated that while finding the best way of fulfilling NACTE’s mandate the local lens was cast to the external environment where they studied the best mode of delivery of technical education; and came to learn about CBET which was finally adopted. R04 affirmed that:

“CBET was adopted because it is very responsive to market demands; and the desire was to establish a system which will enable students who followed the programme to be employable. Employability is dependent on the competences a graduate possesses consistent with the market demands. With CBET we saw it was very easy to come up with a curriculum which would provide such competences and therefore assures the graduates of employment upon graduation, whether employment by a third party or employment in the sense that the individual may decide to establish own undertaking”.

Responding to the question about how competence and CBET are defined elsewhere R04 stated that:

“First I’m not worried about our CBET being cited differently with CBET elsewhere. Our objective was to come up with a system that suits Tanzania best and I’m proud that we managed to do that. If it differs slightly or something like that from systems elsewhere that doesn’t matter. The key issue is whether it is responsive enough and it suits the requirements of this country”.

Respondent R02, who is a pioneer of CBET in the country, stated that the visits made outside the country in quest of the best way the country could develop training programmes to facilitate employability of graduates, introduced them to competence-based systems. R02 cited the Association of Canadian Community Colleges as one of the organisations they visited in Canada at the Red River Community College which had changed from a knowledge-based curriculum to competence-based; a change that made their students employable. He also

cited visiting South Africa and some European countries where they had systems of “training linked to the workplace”; “linked to employment, especially technician employment”. R02 learnt that “you can easily train students to become employable if you attach their training to the workplace, to the industry; and this was assured through competence-based education and training”.

Respondent R03, a pioneer of CBET in the country and a retiree in the Ministry of Health and Social Welfare (MoHSW), also agreed that the workshop on competence-based education at Maastricht introduced him to people who were experienced and extensively involved in CBET. R03 stated that:

“I became interested because I saw that for medical training we really needed competence-based education; because our training in the provision of healthcare services is based on performance. So, training in healthcare is based on competence”.

Respondent R03 remarked that he joined the global network on community-oriented and competence-based education coordinated by the University of Limburg Maastricht. He stated that he was “among a group of people who went to UK and Germany” where he studied different “kinds of training for different professions” that further strengthened his “interests in competence education”.

The local lens on external environment indicates that the concept of competence and CBET generally were conceived in Tanzania through a process of ‘policy borrowing’ whereby the evidence and experience the pioneers of CBET obtained from abroad and from development partners informed CBET policy development in the country. Exposure to the external world was not only for pioneers, but also for other key stakeholders which introduced them to CBET as affirmed by respondent R08, an officer in the Tanzania Chamber of Minerals and Energy (TCME). He explained that:

“I have had opportunity to tour some colleges abroad offering CBET training, particularly in Canada. The way they define CBET is the way we define it here,

and the objectives of CBET there are the same as it is here, only they are more advanced”.

Therefore, the stakeholders’ views portray that there is common understanding of CBET within the country, which is generally taken to mean the balance of knowledge, skills and attitudes as affirmed by respondent R07, an officer in the employers’ association (ATE) who said that CBET:

“Focuses on what the learner can be able to do in the workplace after attaining skills, knowledge, plus attitude and values necessary in our society. Key is competence-based curriculum that specifies the outcomes required by the workplace as agreed between the industry and the community. Usually consultation is made between the training institute or the college and the industry; and the community in general. CBET is more of a type of training that focuses mainly on the requirements of the workplace”.

While responding to the question about how competence and CBET are defined elsewhere and whether he finds other stakeholders defining these terminologies similarly, R07 further stated that:

“What differentiates these terminologies of competence is the knowledge, because generally other people would come out of the colleges and Universities with the knowledge. But here we are emphasizing on the skills, hands-on experience; and also the attitude; mostly this has been lacking in the definition of competence. The right attributes, the right attitude to be able to perform the job; because you can be able to know what is required to be done, but the how includes also the attitude for the task to be able to successfully perform that job”.

This common understanding of competence and CBET was also echoed by the questionnaire respondents who had similar views about these terms as Q12, a technical teacher from a provider institution under Science and Allied Technologies (SAT) field wrote:

“Competence is associated with someone’s skill, knowledge, understanding and behavioural changes required for effective performance in execution of real-world tasks. Competence-Based Education is an outcome-based teaching and learning and is unique from other contemporaries in execution of tasks”.

Also Q27, a technical teacher from a provider institution in the Health and Allied Sciences (HAS) field had a multi-faceted understanding of CBET that also covered the expected teaching and learning mode, and pedagogy, and stated that:

“This is a concept that emphasizes a learner to be able to do or perform skills that he/she is expected to carry out in his/her workplace. The training institution uses this approach to facilitate learning that treats a learner as an active participant in the learning process. Learners are given opportunity to practice and master skills necessary for their future work. Various methods of teaching that make the learners active in the learning process are used. CBET considers what the employers need from learners after completion of studies”.

As was presented in Chapter 4 this understanding of competence and CBET greatly shaped the format of the CBET curriculum, its development and the way it is practically implemented in the country.

Local lens on internal CBET environment

The local lens on the internal environment reveals that stakeholders’ perceptions of the concept of competence and the significance of CBET were greatly influenced by their epistemologies. Some of the factors that played a significant role in informing the stakeholders’ epistemologies are the inflexibility of technical education and training system in the country, the need to address the concerns of the labour market about the competences of graduates from technical institutions, and the need to harmonise provision of technical education and training (TET) in Tanzania.

The narratives revealed that the inflexibility of the TET system in the country played a significant role in the stakeholders’ understanding of the flexible system. Respondent R01 suggested that before the concept of competence became

known to Tanzania the officers within the TET system were not comfortable with the system's inflexibility, especially the way that the system accepted and accommodated employees already in the field for further training and continued professional development to enhance production in the workplaces. Thus, the quest for a better system that would allow for a flexible TET was R01's major impetus to study systems elsewhere that observe flexibility:

“At that time technical education was facing a lot of problems, especially training those who were already employed in the field, who could not come back into the school system. How could you access these people and give them more training for better production in their areas of work? The seminar I attended informed me about the possibility and appropriateness of competence-based approaches for such people”.

R01's main interest “was to be able to bring back into the school system people who were already employed so that they could acquire more skills”. This implies that he perceived that there was a system which would allow such flexibility; which was later found to be CBET. Elucidating on the inflexibility of the system and how they tried to introduce flexibility but with little success, R01 explained that there was no “system where people working in the industry could go back into school system and get some more skills”. He said that though “there were some sort of apprenticeship training but was not sufficient to cater for the people working in the industry”. When he learnt about the CBET system he “realised that it was very appropriate” to accommodate people working in the industry. He opined that a modular approach was found flexible and “easy to provide for formal vertical progression route for these people”.

The findings also disclosed that the need to address concern of the labour market about competences of graduates from technical institutions played a major role in the stakeholders' perceptions and understanding of the Tanzanian education and training system. Respondent R07 from ATE, posited that “CBET was introduced because of the requirements of the employers” simply because there was a gap between what the colleges were teaching and what the industry demanded. Employers were not happy with the product from the technical institutions due to

students' lack of the requisite skills required in the areas of work. R07 affirmed that the employers "were spending quite a lot of money, to re-skill these graduates" who came out with knowledge, "but basically it was more of theoretical knowledge". Thus, R07 stated that employers "wanted people who are really competent, ready to do the job immediately after they come out of the college".

The same sentiments were put forward by many stakeholders such as respondent R05, an officer representing the state (policy makers) that "we were used to the knowledge-based system of training but there are times when our graduates from technical institutions could not deliver". Respondent R06, an officer also representing the policy makers, confirmed that the pursuit to building on the skills which a graduate "gained from class and to lessen the gap between the theory and the practice" contributed enormously to the introduction on CBET in the country. He was of the opinion that the training system was knowledge-based and thus theory laden so lacking the required emphasis on physical skills and other attributes such as behaviour and attitudes important in the world of work.

The findings further showed that the need to harmonise provision of TET in Tanzania significantly influenced the stakeholders' epistemology on the education and training and their perceptions. R04 (the pioneer) stated that before NACTE was established TET system was in "disharmony; it was kind of chaotic so the consumers of the products were not quite sure of what they were getting". R04 affirmed that "NACTE was established to ensure that it brings order to the delivery of technical education". He confirmed that "in the course of bringing order" they decided that they "should do it the best possible way by ensuring that delivery of technical education also responds on market demand". To facilitate this R04 stated that "we took time to study the various systems in place, those in place in the country by that time and those in place elsewhere, and then came across CBET". R04 further posited that:

"our resolve to create responsive approach to the mandate to get order to the delivery of technical education is put in the driving force behind the

establishment of CBET. It wasn't only CBET, first and foremost was to bring order to the delivery and then to ensure that the delivery is most responsive to the labour market demand to assure the graduates of employment at the end of training”.

In summary, stakeholders were happy to borrow ideas and practices in CBET to address perceived weaknesses in the Tanzanian TET system. While they were learning from several countries that were ‘early starters’ (Young, 2011) in developing national qualifications frameworks and the concept of competence, they were also prepared to adapt broader definitions of competence that had emerged over time and that they perceived to be in tune with the needs of Tanzania. Their perceptions of CBET and the reasons for its introduction paves the way to present, in Part II, the context of CBET practice informed by the second theme of *local mediation and translation effects* led by the second conceptual tool of *understanding local CBET mediation and translation processes*.

The version of competence understood by the stakeholders

The following five questions were posed to stakeholders in order to discern the way they understood the concept of competence and CBET:

- (i) What do you understand by the concept of competence-based education and training (CBET)?
- (ii) Why did you become interested in the concept of competence/CBET?
- (iii) What were the main influences of your thinking?
- (iv) What do you think are its main strengths and weaknesses?
- (v) In what ways (or how) do you think the concept of competence/CBET may become more successful or better guide to action?

Assumptions behind the questions were that the responses would trigger a debate on the version of competence understood by the stakeholders, how CBET was conceived, and their expectations of CBET to address the challenges of the

skill/competence formation of the Tanzanian workforce. The question underlying what follows is *what informed or influenced their understanding?* Was the version of competence as understood by the stakeholders *in fact an old and mechanical version due to policy borrowing or the result of policy learning in which the idea of competence was adapted to Tanzanian circumstances?*

It is a known fact that “the educational systems in different kinds of societies in the world have been, and are, very different in organization and in content” (Nyerere, 1967a: 1). Nyerere argued that the educational systems are different “because the societies providing the education are different, and because education, whether it be formal or informal, has a purpose” (ibid). Deriving from the main aim of education which is to make the world a better place to live for all the generations, it is expected that the curriculum in any nation would give people knowledge and skills which they would use to lead a quality life. In Tanzania soon after independence in 1961, the purpose of education was “to prepare young people to live in and to serve the society, and to transmit the knowledge, skills and values and attitudes of the society” (ibid: 2). The educational purpose has been, however, constantly revisited time and again since independence in order to address the expanded meaning of society as a result of globalisation and technological trends. The CBET introduced into the Tanzanian tertiary non-University institutions’ curriculum defining specific competences to be developed in and by learners through education and training is the direct outcome of a revisited purpose of education in efforts to address the challenges of meaningful education and training.

However, the version of competence as understood by stakeholders and implemented in Tanzania has been informed and shaped by many factors. These include the 1967 Tanzania’s ethos of education for self-reliance; the influence of CBET policy borrowing; the need for competence to encompass both hard and soft skills; and the need to address key competences as discussed in the subsequent sections. Here I assess how external and internal factors have shaped the current understanding of the concept of competence.

The influence of the 1967 Tanzania's philosophy of education for self-reliance

The historical perspectives of the education system in Tanzania covered in Chapter 4 (colonial education; egalitarian doctrines after independence and Education for Self-Reliance' (ESR) in 1967; and the country's three major economic epochs since independence in 1961), had a tremendous influence in shaping stakeholders' understanding. The interviews with stakeholders suggest that, following the liberalisation of the economy in the 1990s, the version of competence understood by the stakeholders is still influenced by historical, political, and economic development which shaped the country's education system several decades ago.

Mosha argues that in the Tanzanian education system, "the competence-based curriculum is not a new philosophy as it was implemented in schools during the colonial era up to 1967" (Mosha, 2012: 40). He affirms that up to 1967 "the primary education curriculum" was "competence/skills based" involving "exploration, experimentation, contextualization, expression and drawing of life experiences" (ibid: 40). Mosha further asserts that, although it was undemocratic in some areas as "students were not free to question certain distorted [historical and geographic] facts", the curriculum "emphasised step-by step learning of concept, skills or tasks thoroughly in the classroom before practical application in the field", ..."life/field experiences were used to enable students to gain knowledge through experiential learning" (ibid: 40). However, Mosha affirms that the revised curriculum in 1967 under the world acclaimed ESR policy with emphasis on menial manual work, led to the implementation of a curriculum "lacking the knowledge and skills linkage" (Mosha, 2012: 41).

The historical, political, and economic situation in Tanzania had, and still has, a profound influence on the way the stakeholders perceive competence in Tanzania. It is evident that the stakeholders' understanding of the concept of competence is much informed by this experience, mostly the education for self-reliance which found much acceptance in the country as it encouraged linking theory to practice; though it became a challenge to the implementers to adequately link the knowledge and skills (Mosha, 2012).

It is evident that most stakeholders' understanding of the term competence was linked to and actually mixed up with ESR in Tanzania. For example R01, a pioneer of CBET, commented that "cultural aspects were much stressed after independence, especially after 1967 Arusha Declaration when education for self-reliance was introduced". R07, an officer representing the employers' association, observed that "education for self-reliance in 1967 had emphasis on practical work and behaviour, good attitudes like it is required under CBET, but this social orientation weakened afterwards. So, we need to have this orientation back". According to Nyerere (1967b), ESR aimed at providing individuals with education that would make them self-reliant and play an active role in the community such as the development of the society and inculcating a sense of commitment to the total community. Consequently, ESR prepared learners to develop diverse competences related to the needs of the community and developing their ability to fit well to the needs of the community and their future life.

The influence of ESR is significant and was noted in most stakeholders' views as often linkage was made to the need to produce graduates who are self-reliant, "self-confident" (R16, a nursing officer), and "self-motivated" (R10; R11, mining supervisors) with a "sense of cooperation" (R13, a nursing officer) and dedication to "provide service to the community" (R03, a pioneer; R05 an officer representing policy makers). Thus, R02, a pioneer, suggested that a "CBET curriculum needs to re-introduce code of good practice and attitudes previously stressed in education for self-reliance after colonial rule". Despite ESR being considered effective for developing a self-reliant individual, however it did not live up to the society's expectation as it faced the challenges of implementation such as unavailability of enough and modern teaching and learning resources, competent teachers to implement the curriculum, and lack of dynamism in education due to a weak economy (Mosha, 2012; Kafyulilo *et al.*, 2012) in which ESR resorted to earlier content-based approaches. This history had a profound influence in the way the stakeholders perceived CBET, more so the training providers whose views indicated that lack of proper training on CBET could lead to most teachers focusing on developing content with the hope that trainees would develop intended competences.

The understanding of competence due to policy borrowing

The concepts of 'translation' and 'mediation' have been used in theoretical literatures to analyse ways in which education policy is interpreted and enacted in complex education systems and in which there are many different policy actors involved in the policy process (Bowe *et al.*, 1992; Spours *et al.*, 2007; Coffield *et al.*, 2008). Here I relate these concepts to the acts of 'policy borrowing' and the ways in which ideas from abroad were interpreted and enacted within Tanzania.

In the thesis, the concepts of 'policy borrowing' and 'policy learning' in the areas of upper secondary and vocational education (Raffe and Spours, 2007; Raffe 2011) have been applied to explain the way in which the 'pioneers' brought the concept of national technical qualifications framework (NTQF) and consequent introduction of the notion of competence in the country from international meetings and study tours. I argue that emergence of the NTQF and the notion of competence which resulted into the development of competence-based education and training (CBET) as TET policy reform in Tanzania following international visits should be regarded as a form of 'policy borrowing' because of lack of "drawing lessons from available evidence and experience" (Chakroun, 2010: 199) nationally and internationally to inform this policy development (Raffe and Spours, 2007; Raffe, 2011).

The absence of "a strong emphasis on the development of national capacities to lead the design and implementation" of this policy reform (Chakroun, 2010: 204) denied the country of opportunities for "individual learning" in form of "participation in peer learning and contribution in policy-making processes" which would have contributed to stakeholders' understanding of the "structures and mechanisms" of CBET "policy making and governance" including the extent and nature of learning processes necessary for effective CBET development and implementation (ibid: 205; Raffe and Spours, 2007). Consequently, what resulted was what Chakroun terms "the quick-fix" introduction of the NTQF, the concept of competence and CBET "without proper discussion at national and institutional levels" which led to mechanical understanding and implementation of CBET lacking resonance with contextual labour market and educational and training realities (Chakroun, 2010: 209). Thus, compounded with limited adaptation due

to weaknesses in institutional structures in the country, the 'translation' and 'mediation' processes of the introduced CBET policy faced copious challenges due to the inability of the actors to 'translate' and 'mediate' pertinent external and internal factors which led to emphasis on the design-sided approach in which the Tanzania notion of competence was broadly defined on paper reflecting a largely behaviourist/technicist approach. Thus, use of 'acts of translation' and 'mediation' metaphor in this study is grounded in a narrative analysis as well as part of a theoretical model to respectively discuss the way CBET practices were received, interpreted, adopted, implemented, and adapted in the country; and how the actors interacted with the introduced CBET practices (Spours *et al.*, 2007: 194).

Narratives of the stakeholders indicated that exposure to the external environment by the pioneers of CBET in Tanzania and some other influential officials introduced them to the concept of competence. Stakeholders claimed that they studied the CBET model outside, but made it local (e.g. R03 a pioneer). However, the study findings indicate that the localization aspect is minimal. Evidence collected from the field either through interviews, questionnaires, documentary review and my personal experience indicate that the Tanzanian CBET has been very much influenced from outside. Importantly, those who travelled abroad to learn about education systems elsewhere, did not initiate an extended national debate on the borrowed CBET policy on their return. Patchy discussions, mostly in the form of meetings and seminars involving a few stakeholders' groups took place. More serious was the lack of adequate involvement of Universities, other higher learning institutions, academics and professional researchers in the debates around CBET and its presumed ability to promote competence and to address the challenges of competence/skill formation of the Tanzanian workforce and the society generally.

Lack of adequate involvement of the key stakeholders, both before and during the actual design process of the CBET system, its development and implementation created a huge knowledge gap about what CBET could achieve. Consequently, the absence of adequate involvement coupled with there being very little or no empirical research about "the actual design process,

implementation and results” (Allais, 2010: iii) of CBET in visited countries as well as pertinent challenges defied competence and CBET development processes in the country. With the small amount of exposure abroad to competence and CBET enjoyed by a few officials, absence of adequate training and awareness workshops locally involving experts in competence and CBET from countries with the best practices, lack of decisions informed by adequate research in Tanzania notwithstanding the ingenuity brought into CBET design, development and implementation by the pioneers and other officials on return, the whole process would be seen significantly policy borrowing.

Because the respective economic, political, social and cultural systems of governance in the visited countries (i.e. Canada, Germany, Britain, South Africa), in contrast with the Tanzania situation, are so diverse a mechanical understanding of the concept of competence was construed. This argument draws from unavailability of empirical detail in the country “on what took place or what consequences followed” (Halpin and Troyna, 1995: 307) after the introduction of CBET in the visited countries, a situation that signals the possibility of bringing to Tanzania a mechanical interpretation of the concept of competence/CBET. It can also be argued that the difficulties of CBET design, development and implementation in the visited countries could not be adopted wholesale as they are “related to very specific contextual factors, as well as institutional arrangements and traditions in the [respective] countries” (Allais, 2010: 103). Lack of this knowledge challenged the adopted CBET, though R03 a pioneer of CBET in Tanzania affirmed that “we learnt from outside through visits to different countries but we made it local using local expertise in its development”.

Stakeholders’ views about the breadth of competence - hard skills and soft skills?

All stakeholders understood that CBET links to the workplace could facilitate training of students to become employable. They affirmed that employability is associated with a competent graduate who generally possesses a balance of knowledge, skills and attitudes demanded by the labour market. Their understanding of the concept of competence is that it includes knowledge, skills,

and attitudes; and all these involve both hard skills and soft skills. Moss and Tilly (1996) define hard skills as “the technical requirements of a job” and soft skills as “skills, abilities, and traits that pertain to personality, attitude, and behaviour rather than to formal or technical knowledge” (1996: 253). Moss and Tilly affirm that soft skills include communication, self-awareness, social awareness, relationship management, conflict management, diversity, and teamwork, etc.; and that soft skills complement hard skills. Laker and Powell (2011) also affirm that hard skills are “technical skills that involve working with equipment, data, software, etc”, and soft skills are “intrapersonal skills such as one’s ability to manage oneself as well as interpersonal skills such as how one handles one’s interactions with others” (ibid: 112). This understanding of hard skills and soft skills by Moss and Tilly (1996) and Laker and Powell (2011) is more encompassing and could significantly improve and shape the stakeholders’ understanding on the concept of competence, and the resulting CBET curriculum. However, the stakeholders’ understanding revealed that in Tanzania, the CBET curriculum emphasises hard skills while treating soft skills as ‘a given’ which leads to their inadequate development during curriculum design, development and implementation.

Understanding of the differences between hard skills and soft skills training, particularly in the Tanzania TVET environment in which most trainers are not trained teachers, could be extremely beneficial for successful CBET curriculum development and consequent implementation. This is informed by the narratives of supervisors of CBET technician employees who affirmed that they do not expect a graduate employee to possess the competence and technical skills to perform all technical tasks immediately upon being employed. R14, a nursing officer, observed that “employees would need enough time to be able to get all the competences required in their work roles”; and R11, a mining engineer, affirmed that in mining “excellence in competence comes from experience”. This is covered in detail under the section ‘*CBET employees’ competences from the perspectives of employers*’. However, they expected that the employees would possess the core competences, thinking skills and personal qualities which are adequately built under the soft skills component to enable them to acclimatise to the work environment more readily. This is also affirmed by Laker and Powell

who posit that “technical skills, even for technical positions, are insufficient for subsequent success beyond an entry-level position, let alone for professional fields”. They affirm that “subsequent success beyond these initial levels usually requires proficiency in soft-skill areas: leadership, self-management, conflict resolution, communication, emotional intelligence, and so on” (2011: 113).

The “performance environment for hard skills is usually invariant in terms of the nature of the task” and the training environment could be “set up almost identical to the performance setting” by either modeling or simulating “the on-the-job conditions” (ibid: 118). However, “with soft skills, real-life situations have much more detail and more complex information than what [could] be presented in a training environment” (ibid: 118). With the challenge of the *trainers’ lacking suitable CBET teaching and learning capability* it then becomes a serious problem for the Tanzanian CBET as the trainers would likely “oversimplify the situation and thus lose realism” (ibid: 119). Thus, misleading the “trainees into thinking that they have developed mastery over the skills when in reality they have not” (ibid: 119).

Appropriate management of soft skills in the Tanzanian CBET curriculum is thus vital in order for the concept of competence to take the expanded form to encompass ‘social’ or ‘emotional’ competences needed for “successful performance in society (such as learning competence, cooperation, problem-solving, information processing, coping with uncertainty, decision-making based on incomplete information, risk assessment) and collaborative competence development” (Mulder *et al.*, 2007: 70).

Summary of stakeholders’ understanding of the concept of competence

Pressures for change

The narratives reveal that stakeholders’ understanding of the concept of competence is mostly informed by exposure to external CBET experiences by pioneers and other key stakeholders who traveled outside the country to learn about contemporary practices on skill formation and competence. The quest to

study the external environment was necessitated by the internal environment in form of pressure from the industry subjected to the TET system to produce competent graduates. Globalisation and technological advancements created pressure to effectively manage labour market demand following economic liberalisation policies in the country in early 1990s. Other internal influences, such as need to establish a flexible TET system and to harmonise provision of TET in the country, are some of the cited factors that led to studying experiences elsewhere.

Diversity of 'understandings' on the notion of competence

Reflection on the narratives given by stakeholders indicates the apparent emergence of a set of 'understandings' on the notion of competence. The ***first*** understanding was overly technical in which the hard skills component was very prominent. This was the dominant understanding due to the stakeholders' deeply held views informed firstly by the rationale of introducing CBET in Tanzania where the labour market forces craved hands-on graduates; and secondly by national historical issues such as Tanzania's education philosophy that regarded education and work as "inseparable parts of life" (URT, 1978a: 11); and as a strategy for "reconstruction of the relationship between work and education" in new "realities of life and work in a developing country" (Saunders, 2006: 13). However, this understanding only encompassed elite people in employment and those living in Tanzanian towns where the major concern was on production to satisfy formal labour market needs.

The ***second*** understanding regarded the notion of competence as emphasizing the behaviours of the trainees that develop their critical thinking and decision making to be able to perform in the world of work. This understanding has a strong link with the first understanding. The ***third*** understanding construed the notion of competence as a social matter in which interpersonal skills related to interactions with others in the social life of the communities was pronounced. Again this was a dominant understanding informed by the historical and cultural dimensions of Tanzanian society in which historically the society's sense of community controlled by clear values and practices was very strong. The communal life in Tanzania is still very strong because over 80 percent of the

population lives in villages mainly practising agriculture and bound to socially live together to manage their lives in environments gravely lacking necessary social amenities. The **fourth** understanding regarded the notion of competence as being both hard skills and soft skills, in which hard skills considered the technical dimension and soft skills covering both intrapersonal skills and interpersonal skills (Laker and Powell, 2011). The fourth understanding was merely intentions as the views did not come out strongly to link these with the teaching and learning system to develop such competences, thus were very fragile.

The stakeholders 'understandings' unified their deeply held 'worldview' about the notion of competence as informed by both policy borrowing and societal lives of the Tanzanian people which I see as the waves of the past colliding with the current waves influenced by today's globalised world as informed and supported by the background literatures and my theoretical framework. My judgment of the appraisal in Tanzania is that all such 'understandings', which are also informed by the advent of advanced technologies leading to availability of information as well as porous country boundary as a result of marketised and liberalised economy, bring to the fore the idea of 'hybridity' of the notion of competence in the country. The idea is informed by what I term 'stakeholders fragile intentions' of competence.

Though dominant 'understandings' on the concept of competence were on hard skills and social dimension with elements of soft skills, other perceptions were additionally pronounced. However, the narratives indicate that the soft skills component is not given much emphasis in the curriculum and indeed in the actual implementation due to challenges of teaching and learning environment as discussed in detail in subsequent sections. Though it is still early to definitely tell under this section, I construe the lack of emphasis on the soft skills to result from the process of policy borrowing. Since CBET awareness was not created to the wider stakeholders groups by the delegation that travelled abroad on return, the development of CBET in Tanzania failed to take up "a more 'open' concept" encouraging adequate "stakeholder involvement, collaboration and professional judgment" (CPRI, 2013: 43). Consequently, the resulting CBET design was overly "tight, prescriptive and highly technical" (ibid: 43).

This prescriptive design deprived the country of CBET that could adequately foster Tanzanian “ethical and moral values and heritage, a sense of citizenship, innovation, and culture” to develop self-managing and accountable institutions and citizenry respectful of social and cultural norms for the country’s socio-economic development (CPRI, 2013: 18). The ‘understandings’ lead me to affirm that CBET development in Tanzania had much influence from policy borrowing which led to adopting the technical design available elsewhere, and thus failing to create “a design and implementation strategy that relates to national conditions” (CPRI, 2013: 16). In summary, the fragility and hybridity dimensions resulting from diversity of ‘understandings’ by stakeholders likely produce issues for translation and implementation as covered under the succeeding parts.

Part II: Implementing and adapting the concept of competence in Tanzania

Introduction

The advent of CBET in Tanzania initiated various processes by diverse actors as they interacted with the introduced CBET practices. The interaction involves how CBET practices were received, interpreted, adopted, implemented, and adapted. The interaction with CBET practices by the actors in the country represented by key stakeholders in this study and their pertinent interpretation are respectively presented using the terms ‘mediation’ and ‘acts of translation’. By mediation I mean the overall process going on between levels of the state so that CBET policy is mediated. I use ‘mediation’ to present the views of the stakeholders on how they see a range of actors interacting with the CBET policy. The acts of translation mean that certain things are translated in a certain way more specifically. I use ‘acts of translation’ to denote the views of the stakeholders on the way they perceive the interpretive acts by diverse actors of the CBET policy in the country (Spours *et al.*, 2007).

This section of the chapter covers the local CBET mediation and translation effects and how the demands for change were implemented in Tanzania through *CBET regulatory frameworks and structures* and how CBET practices were shaped by the *CBET implementation environments*.

Challenges after the introduction of CBET

When CBET idea was conceived in the country, it was thought appropriate to create CBET awareness in the country since at that time as R02, a CBET pioneer, confirmed “very few people knew about CBET” and as a result “many were querying what” CBET was. R01, a pioneer, affirmed that efforts were made “to create awareness to some core group of CBET trainers and administrators in the country”. R01 opined that “we started thinking of having a policy in TVET” in order to realise a smooth introduction of CBET in the country; and explained that “we continued with the process of formulating a policy until 1996 when the first

Technical Education and Training Policy was in place". He posited that it was in TET policy of 1996 where:

"it was clearly stipulated in the Government documents that the training in TVET would be competence-based education and training, starting from vocational level to technical level".

R01 confirmed that in the 1996 TET policy "it was clearly stipulated that there should be an established regulatory body to oversee the quality of training in technical institutions". Consequently, as affirmed by R04, a CBET pioneer:

"the National Council for Technical Education was established in order to harmonise and standardise the delivery of technical education and training in the country so that anybody going through NACTE overseen programmes should be expected to possess certain levels of competences across the board".

One of the first tasks of NACTE was to look into the best way possible to implement the requirements of the TET policy, which included among others the implementation of the CBET in Tanzania. Thus, R02 stated that:

"in order to implement CBET first we had to establish a qualifications framework spelling-out clearly what is expected of a graduate from technical institution in the world of work; what can this person do in the world of work, in terms of skills, knowledge, attitude and wider understanding. So we produced the first National Qualifications Framework".

The efforts to introduce CBET in the country at that time as narrated by R02 saw "many reforms taking place in the country" in order to develop and establish the CBET system. The processes involved many people but were coordinated by NACTE. R03, a pioneer of CBET, affirmed that:

"we used and worked with a lot of experts from different sectors to develop it, but we guided them, knowing what we needed; giving influence on what we wanted was very important. We produced very good guidelines and documents on competence-based education, and the standards. We defined competences

for different occupations and used different professions themselves to determine the competences”.

Many guidelines were developed to guide CBET curriculum development and implementation. R02 cited some which included “how to prepare a competence-based curriculum”, carrying out a “labour market survey”, “many guidelines in relation to delivery and assessment of CBET and other procedures”. Creating policy and regulatory frameworks was regarded as a keystone to the introduction of CBET in the country and a vital stride toward more focused actions within a range of constraints as discussed below.

CBET implementation environments

CBET practices in the country are shaped by the contextual environments within which they were implemented. The environments are discussed by presenting the narratives of the stakeholders guided by the *local CBET operational implications* conceptual analytical tool of the analytical framework. The work done to introduce CBET in the country, notwithstanding, is perceived differently by diverse stakeholders when viewed from the context of implementation. Most stakeholders confirmed that CBET implementation faces diverse challenges within its implementation environments. Most thought that CBET practices are challenged by *CBET being resource intensive; its lack of adequate political will and funding stability; trainers lacking suitable CBET teaching and learning capability; inadequate involvement of stakeholders in CBET development and implementation; and the absence of an adequate CBET strategy at the lower education levels in the country.*

CBET being resource intensive

Generally all stakeholders observed that CBET is resource intensive and an overarching concern was funding instability within provider institutions which leads to a poor CBET delivery environment. Funding instability also renders NACTE inefficient in executing its mandated roles of regulating TVET provision in the country and properly guiding and monitoring CBET implementation and evaluation. R05 representing the policy makers from the MoEVT, stated that CBET is “resources-intensive” and requires a lot of “resources in order for people

to come out with the required skills”. R06, a policy maker from the MoHSW, also observed that CBET “is too demanding; you need a lot of resources in terms of human and material”. Q07, a technical teacher from a technical institution under Science and Allied Technologies, stated that “adequate resources and training materials are needed for CBET implementation which is expensive for most technical institutions to afford”. R07, representing the employers’ association, also echoed these views saying that “CBET is definitely more expensive than other methods of delivering education”. He further stated that:

“when I say expensive, it’s not only money because you have to buy the equipment and materials that will be used during practical; but there are also a lot of errors that are done by students in the course of learning, so a lot of materials have to be used”.

Lack of adequate political will and funding stability

Many stakeholders, for example R03, a pioneer of CBET, was of the view that CBET “needs resources such as human which are inadequate”. However, R02, a pioneer of CBET, blamed the government for lack of political will to support CBET. He stated that the first challenge he saw was “the absence of political will which has led to underfunding”. He supported the fact that CBET requires adequate funding to enable provision of “appropriate infrastructure for implementation”. He observed that lack of ‘political will’ causes the misallocation of the six percent employers’ contribution of their ‘Pay As You Earn’ (PAYE) as Skills Development Levy for skills development in the country. He confirmed that after allocating the two percent to the Vocational Education and Training Authority (VETA), which is responsible for crafts and artisan training in the country, the remaining:

“four percent is given as loans to students who are pursuing the university level education; degree level education. But this money was for skills development. If there was political will the four percent would simply be directed to TVET, and is enough to transform the infrastructure in our institutions”.

R07, an officer representing the employers’ association (ATE), stated that the employers, both public and private who “at the moment are spending quite a lot

of money for skills development levy” would require technical institutions to provide the “competences that are required or expected by the industry”. The production of competent employees would make the industry see “the benefits or the fruits of the money they are contributing to develop the skills in this country”.

Despite CBET’s approval by most stakeholders in the country due to its perceived potential for skills development; this positive acclaim, however, is affected by criticisms. For example, R09, an officer in the Tanzania National Nurses’ Association (TANNA), affirmed that CBET “is very good if at all it is implemented correctly”. This affirmation was also echoed by most stakeholders who observed that CBET implementation is impeded by insufficient resources and an inadequate infrastructure base, such as teaching and learning facilities, problems aggravated by the Government’s decision to expand student enrolment at all levels of education, leading to overload of the existing infrastructure. R08, an officer representing the Tanzania Chamber of Minerals and Energy (TCME), commented that any technical institutions you visit complain about “lack of facilities, such as enough lecture halls, enough classrooms”. R08 cited technical institutions producing mining and other engineering related programmes as having “quite a lot of constraints needing a lot of assistance”.

R09 from TANNA lamented the lack of “learning equipment”. He said, for students to acquire the competences claimed possible under CBET the training system would need to “have enough equipment”. He observed that “the political will favours increase in enrolment while maintaining the same number of teachers, and the same infrastructure”. He noted that even though the teachers are struggling hard to make better CBET implementation “happen, but it is very difficult, and very straining” to teachers; thus hard to realise. On the question of the challenges that CBET faces in Tanzania, R03, a pioneer, remarked that “one of the major challenges is pressure of increasing graduates and unaccommodating training space”. Compounded by other challenges like an “insufficient number of tutors, inadequate equipment for training, and insufficient opportunities for some students to practice”, it is evident that production of competent graduates may be difficult to realise in the foreseeable future. Q12, a technical teacher in an engineering offering institution, also commented on the

political will that “maybe there is no strong Government policies for CBET implementation”.

Teachers’ and trainers’ lack of suitable CBET teaching and learning capability

The third sub-theme under the ‘local mediation and translation effects’ main theme was the perceived lack of CBET teaching and learning capability among teachers and trainers. As R04, a pioneer of CBET in the country, asserted: “there are people at the institution who were trained the delivery style of the former system, and may not have the adequate training to be able to provide CBET”. He observed that “implementing it is not straight forward. It requires people who have passion for it; at least people who understand it well”. A technical teacher (Q05) from an institution under Science and Allied Technologies (SAT) field stated that “since CBET programme was introduced no special teaching procedures have been made available to most of the implementers”. He was critical of the absence of CBET tailor-made courses for lecturers, tutors and other trainers in the country. Q05 asserted that “very few teachers got the dose on how to implement CBET but most of those who were trained have now retired”. Though another technical teacher (Q12) from an institution under the SAT field heralded CBET for its potential to “stimulate the learner in creativity, innovation, practical application of ideas associated with the real world” he observed that it has “challenges in transforming the tutors from the traditional approaches to CBET”. A technical teacher (Q19) from an institution under the health and allied sciences (HAS) field lamented that “CBET started when adequate preparation to start using this approach was not made”. She further asserted that “although the approach is already introduced, the educators are still using the traditional methods of teaching; the application of CBET is still not well understood among educators”.

Most stakeholders are of the view that the trainers in provider institutions are not well prepared to deliver the CBET curriculum or to conduct the required assessment appropriately. A technical teacher (Q23) from an institution under the HAS field affirmed that “there is lack of competent teachers to deliver CBET as required”. The same observation was also raised by Q13, who is a nursing

tutor, that nursing training institutions have a “shortage of competent teachers to implement CBET”. Q06, a technical teacher from an institution under the SAT field, commented that “for the time being trainers are not competent to use CBET”. Her view was supported by Q28, a technical teacher from an institution under the HAS field, who asserted that “most instructors/tutors are not fully oriented in CBET”. She confirmed that the current practice is that “tutors use both CBET and the previous knowledge-based approach interchangeably which is likely to affect the output of CBET”.

The narratives of the stakeholders indicate the challenge facing the implementers of CBET in the country, that of lack of proper training in CBET delivery and assessment. As R04, a pioneer of CBET observed, lack of adequate training to provide CBET “may become the most serious problem; and in fact could even be a threat in the sense that they may not be able to achieve what we expect because people are not doing the way it should be done”. However, he asserted that “if CBET is properly delivered and if everybody responsible for delivering it is properly prepared; definitely there are all the strengths and all the advantages that one can think of”. The other pioneer of CBET (R01) observed that there is a “need to re-train all the teachers to have a different outlook of the training, because they were used to the traditional training approach which is quite different from CBET”. R01 also asserted that there is a challenge of “shortage of staff in our CBET institutions; but more serious is the understanding of CBET concept”. He further commented that “you can have a good CBET curriculum, adequate teaching and learning materials and other facilities, but if the teacher is not capable to deliver this curriculum we can think of this as a waste of time”.

R02, a pioneer of CBET, echoed similar reactions about lack of prepared teachers to teach CBET by asserting that “they are not well prepared”. He commented that “they teach somehow competence-based and somehow knowledge-based; so it is confusion”. R02 further asserted that connected to lack of teachers’ preparedness to teach CBET “is assessment”. He stated that by the fact that CBET is expected to address the requirements of the labour market, “and most teachers have not worked in the industry, assessment of whether the required skills, knowledge, attitudes, or competences demanded by the

workplace have been attained poses a serious challenge”. Training of teachers was also very much emphasised by R03, a pioneer of CBET, who stressed that “the most important thing is the teachers training; we need to recruit teachers and train them so that they can support the system”. He observed that “well-trained teachers can always be innovative, respond to a situation, and can train students in whatever situation they could be in. So, let’s train teachers; and this is very important”. A similar observation was made by R05, representing the policy makers from the MoEVT, who stated that “trainers or facilitators in our technical institutions need to be trained, specifically in the methods of providing CBET”. He stated that since most of them were trained in the knowledge-based approach before CBET was introduced in the country, it is vital that “we retrain them in CBET delivery approaches and equip them with requisite knowledge and skills for training others”.

R09, an officer in TANNA, also asserted that “one of the weaknesses of CBET in Tanzania is “the competence of teachers”. He posited that preparation of “teachers to take-off this kind of system” was not adequately done. He observed that there is “need of having some training for the trainers to understand CBET curriculum and how to teach it”. He asserted that changing the curriculum should have considered “changing the mindset of the trainers” in the way they deliver CBET. On assessment he observed that “the way teachers test the competences of their students is problematic. Teachers need to be trained also in this area of assessment”.

Inadequate involvement of stakeholders in CBET development and implementation

Most respondents were comfortable with the level of stakeholders’ involvement in the development and implementation of CBET in the country. However, differences in views among a few stakeholders were noted. The differences in views were according to their function and relationship to the state. All the pioneers were of the opinion that involvement of stakeholders in various stages of CBET development and practices in the country would be considered as “the main strength of the Tanzanian CBET approach” (R02). R02, a CBET pioneer, asserted that, the “interest that the employers, the industry, and the society in

general have in CBET is the main strength” which may assure success in CBET implementation, despite the aforementioned challenges. While responding to the question on what he thought were the strengths of the Tanzania CBET approach, R03, a CBET pioneer, stated that “use of the professionals themselves and employers was the best of our developing competences in Tanzania”. He affirmed that the process was “very participatory from the professions, the employers, and even the students”. He believes that “our system is robust as it has been participatory and involving different stakeholders”. He further asserted that “by also involving international community we were also able to be up-to-date about what the technology is today”. R05, representing the state (policy makers), affirmed that involvement of stakeholders in the overall TVET processes in the country is supported by the policy, and stated that “TVET policy is an opportunity which addresses CBET and the need to involve the industry”. He confirmed that “availability of the public-private partnership policy that advocates interaction or collaboration between the private or the industry and the provider institutions is an evident opportunity”.

However, to other respondents, involvement of stakeholders in CBET development and implementation was seen as inadequate. R07, representing ATE stated that “CBET requires working together between training institutions and employers”. However, he observed that “sometimes colleges are complaining that the industries are not cooperative with the training institutions, and sometimes the employers are also complaining that training institutions are not actually listening to the advice of what kind of competences are required”. This observation signals inadequate involvement of employers in CBET practices. Similar sentiments were also echoed by another interviewee (R09) from the employers’ and professional associations’ group representing the voices of nurses in the country (TANNA) who throughout the interview indicated his dissatisfaction on the way CBET is implemented in the country, and indeed on the question of involvement of professionals. He commented: “I think professionals or professional associations would have been empowered to take care of their professionals, their professions but you may find politicians engaging in some professional matters while they are not professionals”. He was critical on the issue of reducing the training duration of former certificate nursing from three

years to two years and the diploma in nursing from its former four years to three saying it was an “external force from these politicians to reduce the training duration”. Inadequate involvement of stakeholders in CBET development and implementation was observed to lead to a curriculum unresponsive to the demand of the labour market as concluded by a technical teacher from a provider institution under Science and Allied Technologies field (Q04) who asserted that lack or inadequate involvement of key stakeholders could have grave consequences. He said that “when little or no attention is given to identification of the essential job skills then the resulting training course is likely to be ineffective”.

Inadequate CBET implementation strategies at lower education levels in the country

This is another factor which was observed to challenge CBET implementation in Tanzania. Since the mode of education and training under CBET is not fully operational in primary and secondary schools in the country, most students entering TET may not have experienced the CBET mode of delivery in those levels. R01, a pioneer of CBET in the country, affirmed this to be a challenge. He stated that “that is another challenge because students come from secondary schools where they follow traditional approach, and they get into our CBET institutions where they are introduced to CBET”.

This view was echoed by R02, a pioneer of CBET: “even at lower level competence-based education and training is necessary”. He asserted that “it is very important even for the lower levels to fully move to competence-based”. However, R01 was not very much worried by lack of adequate CBET at lower levels. He observed that “for students that is not a big problem because they normally can acclimatise themselves with different situation depending on how the teachers would introduce the concepts to them”. His main worry was on lack of appropriate CBET teaching and learning approaches among teachers. He observed that if students from lower levels where CBET is not practiced “again report to a teacher who is not conversant with the CBET approach at TET level then they could confuse”. But he opined that “if they get an appropriately qualified teacher on CBET definitely the change for students is fast to

accommodate that; they adapt to the CBET system as long as the teachers available are qualified and capable”.

R02 affirmed that lack of adequate CBET at lower levels is currently being addressed. He confirmed that “the Government has currently allowed all teachers training colleges to be under NACTE, a wish come true which NACTE had for a very long time”. He observed that “NACTE could now easily influence the education system to introduce CBET even at lower levels”. He stated that “having CBET at lower levels would help students to easily connect their learning to the real-world instead of the current situation where the learning is so abstract”. R02 was optimistic that “by NACTE acquiring the teacher colleges CBET could be taught to improve teaching and make our system more interesting as would simply connect learning to the real world”.

Networks to support competence development

Under the third theme I present the stakeholders’ views regarding the importance they attached to creating networks or linkages between the industry and provider institutions to support competence development of the Tanzanian workforce. Various views were aired by the stakeholders on this theme, and I present them guided by a number of main sub-themes that emerged from their views including *involvement of industry in CBET implementation, importance of field attachment for students and staff, legislation to encourage industry-provider institutions network, and partnership between industry and CBET practitioners.*

The views of the stakeholders under this theme are also informed by the way they see CBET practices in the country. Using the *local CBET operational implications* tool from the analytical framework discussed in the previous chapter, I present the narratives of the stakeholders on the need to create industry-provider institutions networks for CBET implementation that would support effective competence development.

Involvement of industry in CBET implementation

As previously presented, introduction of CBET in the country came along with many reforms to address the challenges which were evident. The reforms

meant conducting many activities and functions to institute a robust TVET and CBET system. Carrying-out these activities involved, among others, the employers (industry) in CBET curriculum development process which is “preceded by the labour market demand survey in a particular area to establish the requirements of the industry” (R02). Though respondents indicated that “the main strengths of the Tanzania CBET approach is the involvement of stakeholders, particularly the industry or employers” (R02), some respondents indicated that there are challenges regarding the level of the involvement. R03, a pioneer of CBET in the country but now a retiree, affirmed that “actually I see there is a problem at the moment as regards working relationship between the training institutions and industry; there is much to be desired in terms of having a closer working relationship”. He observed that “training institutions are isolating themselves from the industry”. He regarded provider institutions “living in ivory towers”; and cautioned that:

“Within the contemporary world there are no longer ivory towers; because if you do in the end you could even lose the market because the training you provide could be outdated and thus not preparing graduates to deliver meaningful service in the industry and to the society generally”.

Involvement of industry was also seen as a challenge by R07, a representative of ATE, due to insufficient contact with the industry. He opined that “there is need for regular contacts with the industry”. He stressed the need for “more contact and more discussion regarding the competences that are required or are expected by the industry so as to increase employability of graduates from the institutions”.

R01, a pioneer of CBET in the country, also affirmed that “though we are seeing some improvements now; however, we have been witnessing lack of coordination or link between the industry and provider institutions”. He observed that “lack of coordination gravely affected the performance of graduates in the world of work due to missed exposure to what happens in the industry practically”. A senior officer representing the state (policy maker) under the MoHSW (R06) observed that “sometimes there are gaps between what is offered in the training institutions

and what is available in the clinical practice due to lack of coordination between these two entities”. He stressed on need “to have a common understanding between what the training provides to students and what is expected in the field or clinical practice”. He also affirmed that “if the clinical practice and provider institutions would be talking the same language, the delivery of CBET curriculum would surely be successful”.

While responding to the question about opportunities for technical institutions in Tanzania to work more closely with industry R04, a pioneer of CBET in the country, stated that “the opportunities are numerous”. But he observed that “it entails provider institutions taking the lead; that is they have to approach the industry”. He cautioned that “the collaboration should not be taken for granted; you do not keep your students in class and hope that the industry will just collaborate”. He asserted that the provider institutions should “approach the industry and engage them; and the industry has every reason to respond”. He stated that since the “industry needs skills which the graduates would acquire; it is in their interest the graduates are prepared in the best possible way”. Giving his views on the importance of joint efforts between the industry and provider institutions R04 affirmed that:

“before you prepare a curriculum you have first to carry-out a market survey through working with the industry to establish requirements. That kind of engagement is a very important step because then it is easier to call upon the industry to help to monitor the performance of the system or to assist in ensuring proper delivery of the curriculum which they are part in formulating. So the whole system embodies a very close linkage with industry. The onus, however, of the system is to make use of the joint efforts and engage the industry appropriately”.

While responding to the question on how the concept of competence may become more successful, an officer (R08) representing the professional associations (TCME) stated that “since we are producing graduates for the world of work it is of utmost importance that there is collaboration between the industry and provider institutions”. He affirmed that the collaboration “helps the institutions to learn what the industry needs, and the industry can tell the

institutions what kind of an employee they need in the industry”. He stated that “it is through this discussion and collaboration that the provider institutions can produce a better graduate each year”.

While responding to the question about opportunities available in the nursing field for technical institutions to work closer with hospitals R09, an officer representing the professional associations (TANNA), stated that “there are so many opportunities”. He noted that “if there is a good relationship even the hospital would easily get the employees from the same provider institutions”. But he however declared that “sometimes even the level of our hospitals may not be suitable for the learners to acquire the required competences”. He stated that “though there may be that linkage with the hospitals, but the question is whether there are enough qualified personnel to act as preceptors for students”.

Similar views on the lack of enough qualified personnel in hospitals were also aired by a Government official from the MoHSW (R06) who declared that “we have a problem of adequately qualified personnel in our hospitals”. He observed that the requirement that “a diploma trainee be supervised by a personnel at the clinical practice having an education level higher than a diploma is hard to fulfil; not only by the public hospitals but also the private ones”. The problem “of inadequate staff in the hospitals challenges the efforts of supporting trainees in the clinical practice to build the competences expected by the industry”.

Respondent Q12, a technical teacher from a provider institution in the SAT field stated that “though some industry accept students for field practical training, however, there is weak relationship between provider institutions and industry”. He observed that this weakness “leads to delay in bringing new technologies in the curriculum by the provider institutions”; he affirmed that:

“the weakness may be eliminated through the provider institutions’ collaboration with the industry in research activities, ensuring industry memberships to the provider institutions’ Councils or administrative boards for exchange of ideas”.

Respondent Q24, a technical teacher from a provider institution in the HAS field stated that “there is need for the industry and the provider institutions to work

together in order for the provider institutions to produce what the industry needs". On the involvement of industry in CBET implementation, respondent Q01, a technical teacher from a provider institution under SAT field, also stated that though there are a lot of opportunities to result from the linkage between provider institutions and the industry, however, "there is need for an intervention between the Government, provider institutions, and industry so that they sit together and agree on how each group would participate to ensure the sustainability of CBET system". He cited efforts such as:

"joint researches, exchange programmes in which experts from the industry could go to the institutions to deliver a particular competence, provision of industrial practical training placements, support in the provision of teaching and learning facilities, and placements of trainers in the industry for practical training".

R04, a pioneer of CBET in the country, stressed that "continuous engagement or interaction with the industry is the best in facilitating building of competences". He stated that the engagement may include "calling upon people in the industry to come and deliver guest lectures, organising study visits and tours to the industry, and inviting the industry to come and see what is happening at the institution". This endeavour may help "to provide comments and feedback on what should be done to improve so that what is happening at the institution very much reflects the reality of situation in the workplaces".

Importance of field attachment for students and staff

The views of stakeholders on the need to involve the industry in CBET implementation led to another vital aspect of field attachment for students and staff. R01, a pioneer of CBET in the country, affirmed that in order for the provider institutions to equip graduates to adapt effectively to changes often happening in the workplaces "there is need for them to have a closer link with the industry". He observed that "in the industry technology is changing very fast, and in some cases the industry is able to acquire the new technology faster than the training institutions". He confirmed that "in some cases the new technology comes along with new equipment which the training institution could not afford either to purchase or to run as are very expensive". He further stated that it is

“even not worthy keeping them in the training institutions if they do not do any production” as it would be a “wastage of resources”. He observed that “if there is such a link, then it is easier for the students and the teachers as well to get into the industry and access the new technology”. He affirmed that “if the industry doors are open, then students and teachers could access the technologies in the industry, learn and later apply the gained skills in their specialisation”. He confirmed that “there is a proposal right now to see the possibility of using some of the hands-on people in the industry to deliver some of the programmes in the workshop and practicing as part-time teachers to deliver some programmes in the training institutions”. He observed that “though this practice is happening in some other countries, but in Tanzania it is informally practiced and by very few institutions”.

R02, a pioneer of CBET in the country, also observed that “though there are some industries that are interested in working closer with the provider institutions”, but still some are not cooperative”. He opined that “there is need to create awareness to industry to accept CBET students for field attachment”. He observed that “NACTE has to play a leading role to educate the employers on need for them to accept graduates from provider institutions because production of the competent workforce is also in their interest”. R02 further asserted that “field attachment to the industry for both students and staff is vital”. Though field attachment for staff is not common in Tanzania, R02 affirmed that it is “imperative for the teaching staff to get field attachment and work for some time in the industry in order to see the changes that are taking place there and acquire more skills”. Thus, he stressed the idea of “establishing a close link between the industry and the teaching staff in training institutions”.

Another pioneer of CBET in the country (R03) also stated that “the industry has to see that they have responsibility to train their future employees” through effective linkages with the provider institutions. He observed that “there is need for some intervention in terms of advocacy by the Government to educate the employers to take training responsibility of the future workers” to guarantee survival of the nation “through provision of a well trained workforce”. R03 further stressed that “exposure to the industry for both students and staff is very important because it

would provide real practice in the field to complement the theoretical part obtained in the training institutions”. R05, representing the policy makers (MoEVT), confirmed that “currently the industry and provider institutions are collaborating in some ways, though at a small scale”. He affirmed that “students go for industrial attachment; and sometimes some trainers are attached to industry”. However, he stressed about need “to scale up the interaction with the industry”. R07, an officer from the Association of Tanzania Employers (ATE), affirmed that having field attachment for students and staff increases the “opportunity to enhance the skills”. He affirmed the need to “develop skills enhancement programme between the industry and colleges”. He opined that since “most investors in this country are coming from CBET-oriented societies; they would be very happy to work together with these training institutions to ensure that CBET exercise takes root”.

R08, an officer from the Tanzania Chamber of Mines and Energy (TCME), stated that “for many years the Chamber has been trying to provide opportunities for learners to get some practical attachment in the mines or assisting institutions to find placements for their trainees; and that has been done very successfully”. He confirmed that “some of the colleges also ask for lectures from the mines; someone can come to the college, say one Superintendent talking about how a plant works and what happens underground, including things like issues of safety”. R08 confirmed that this “arrangement assisted the Chamber to get feedback on how the trainees and trainers fare in the field”. The feedback helps the provider institutions to reflect on their practices such as “reviewing their curriculum or creating awareness about the organisational values to staff as well as trainees”.

Legislation to encourage industry-provider institutions network

All stakeholders interviewed indicated that it is very important to ensure and encourage the establishment of strong and reliable networks between the industry and the provider institutions as it may greatly contribute to producing graduates possessing the requisite competences demanded by the labour market. When asked to give their views on how networks should be established, two contrasting views ensued: that of legislation to encourage the industry-

provider institutions networks, and the other of encouraging voluntary collaboration.

Responding on whether having a policy to encourage and guide the networks between the industry and provider institutions could improve the working relationship, R07 representing ATE affirmed, and declared that:

“TVET policy which is currently being finalised in the country is emphasizing on public-private partnership; in terms of private sector working together with the training institutions whether public or private to ensure that the workplace gets the competences that are required”.

He affirmed that TVET policy “is encouraging involvement of the workplace in providing the training, especially practical training and apprenticeship”. When it is legislated it “would be possible to jointly develop skills enhancement programmes that would be very beneficial to both private sector and the training institutions” (R07). R01, a CBET pioneer, also affirmed that “the TVET policy which is currently being revised has taken care of the issue of linkage between the industry and the training institutions”. He observed that “the legislation should emphasise that people in the industry should be recognised and accepted as competent persons to teach part of the programme”. His observation was based on his understanding that “in Tanzania it is not a common practice especially in the technical education for experts from the industry to participate in the training delivery in technical institutions”.

Similar views on legislation were also opined by R03, a pioneer of CBET in the country, who observed that “I think that we should make it even a constitutional thing; that the industry should provide opportunities for students to learn, to use all the resources in the country to learn”. He affirmed that “the students need to get industry exposure because they are the future employees; exposure in training institutions is not adequate”. He stated that:

“since the country is currently developing the constitution perhaps this should be the constitutional right for students to be given opportunity to learn

practically be it in the private enterprise, the industry, or the Government institution using the resources available in the country”.

R02, a pioneer of CBET in the country, was also in support of legislation like it is practised in “Singapore and in South Africa where they have a law which requires industry to collaborate with the training institutions”. He however observed that “there is need for this legislation in Tanzania to institute a tax relief for any industry or employer who would accept to take part in training or donates equipment to a provider institution”. He affirmed that “adopting this legislation approach may encourage our employers to become more interested and easily accept students and staff for skills and competence development”.

Though all stakeholders had a view that close working relationship between industry and provider institutions is vital for skills development endeavours in the country, some did not support the idea of legislation. For example, on whether there is need for legislation R04, a pioneer of CBET in the country, stated that “I think I would not go for forcing the industry to collaborate”. He asserted that:

the industry should be convinced based on benefits that accrue to them. The system has a lot of benefits if it is properly implemented; and it is in the interest of the industry that their employees are properly prepared. If they are engaged right from the formulation of the design of the curriculum that is good enough; then the engagement with them should be glued requiring them to assist in ensuring that students get the best quality in education”.

He affirmed that “whatever that ventures would mean key is to ensure through voluntary relationship that the quality of delivery is excellent”. He stated that “what matters is to define what roles the industry could also possibly play in ensuring that the products are what the industry desires”. Similar views were aired by the representative of the policy makers (R05) from the MoEVT who observed that “forcing the industry to collaborate through a legal instrument may not produce good results”. He affirmed that “the only thing is to encourage partnership, or establish some forums in which stakeholders from industries, institutions, and the Government would come together and exchange views on CBET implementation”. Similarly, R08, representing TCME, stated that “I beg to

differ with the proposal of having a legislation”. He affirmed that “what is needed is collaboration between the institution and the industry”. He confirmed that “the industry is open and they are ready to assist; and to date they have given so much assistance to some of the institutions in terms of computers, lots of reading material, and many more”. He concluded that “opportunities are there, and collaboration is the most important thing; legislation would not help very much”.

Partnership between industry and CBET practitioners

Another sub-theme that emerged from the stakeholders’ narratives relating to networks between the industry and provider institutions is partnership between industry and CBET practitioners. Some respondents were of the view that in order to address the challenges related to CBET implementation in the country working in partnership among CBET stakeholders and other CBET practitioners cannot be overemphasized. Partnerships could facilitate joint forces to address CBET challenges within particular ‘local ecologies’ whereby CBET stakeholders would actively interact and relate to accomplish common goals within a particular locality.

Responding to the question on whether the stakeholders see partnership as a process developing in Tanzania and if it could help to address the challenges related to CBET implementation in the country, R03 a pioneer of CBET, affirmed that “these days you cannot afford not working in partnership with others, as you cannot have everything yourself”. He observed that “an institution cannot be self-sufficient; will always depend on other institutions”. This includes seeking expertise from other institutions, bringing in practitioners who are working in the field, who can really tell what is actually happening in the industry. He stated that “we need to get people from the service areas where actual work is done to inform about the reality there”. He emphasised the need for technical institutions to “work in partnership with other provider institutions, Universities, industry, and other practitioners in the field”.

The need for partnership was also emphasised by R05, an officer representing the state (policy makers), who stated that “partnership should be the option” for CBET implementation to be successful. He affirmed that “we should encourage

partnership”; and that “through partnership we can establish some forums in which CBET stakeholders could come together and exchange views on addressing the implementation challenges”. R05 confirmed that “availability of the public-private partnership policy in the country is an opportunity”. He asserted that the policy encourages “interaction and collaboration between the private sector or the industry, the public and the provider institutions” to support the development of technical education and training in the country. He observed that presence of the public-private partnership policy testifies resolve by the Government to ensure that CBET is introduced in our TVET system, and indicates its “willingness to create supportive environment for CBET implementation”.

The willingness by the Government to introduce TVET policy, which R07, an officer representing the employers association (ATE), confirmed to have “a lot of emphasis on public-private partnership” encourages various stakeholders to work together with training institutions; a step supporting CBET practices in the country. Asserting the role of partnership R07 stated:

“While working with Tanzania Breweries (TBL) Dar es Salaam Technical College, now Dar es Salaam Institute of Technology and VETA had agreement to employ TBL employees to train students and tutors using machines and technology of TBL. It was hands-on training (CBET) using the workshops and training facilities of TBL; it worked very well”.

R07 further stated that partnerships may entail “involving the workplace in providing the training, especially practical training and apprenticeship”. He also observed that “we could use modular curriculum to focus on certain modules which are required by the workplace; and allow people to go to college, study for some time, and go back to work, and return to college again”. He asserted that partnerships could involve “refresher programmes which are very important to address so many changes taking place in the world of work”.

Responding to the question on how our technical institutions would equip graduate technicians to adapt effectively to constant workplace practice changes, Q01, a technical teacher from an institution in the SAT, field remarked that coping

with “advancement in technology requires adequate funds”. He observed that “even though the institutions would recognise presence of new technologies, limited funding to institutions is a big challenge”. He stated that since “an institution may not be capable of purchasing particular equipment due to lack of funds, partnership between the industry and the institution could permit sharing of the new equipment or would assist the institution to purchase one”. The importance of partnership arrangement was also noted by Q07 and Q08, technical teachers from an institution in the SAT field. Q07 affirmed that “close cooperation and collaboration between industry, stakeholders and trainers through partnership would bring a well developed CBET”; and Q08 supported it to entail “sharing whatever they have by signing a memorandum of understanding (MOU)” to safeguard individual interests.

Role of CBET in promoting social cohesion and normative behaviour

In this study social cohesion concerns how united people are in society and their interaction to bring about effective or meaningful socio-economic development in the country. Considering the Tanzanian culture and other socio-economic factors, this theme looks at how CBET practices in the country contribute to building the social cohesion characterised by attitudes and behaviour of the CBET graduates within acceptable societal norms. The study regards social cohesion as vital for building unity, honesty and, teamwork among citizens and thus contributing to addressing the challenges of fraud, embezzlement of public funds and, corruption which are current vices in the country impacting social cohesion, and risking the much cherished unity and peace of the country. Under this theme I present the views of stakeholders on the way they see technical institutions equipping students to building social cohesion.

The narrative of stakeholders under this theme is informed by the *local CBET operational implications* tool from the analytical framework which I present guided by the main sub-themes put forward by the stakeholders during interviews and surveys including *need for CBET to develop and safeguard ethical values and professional ethics; inclusion of social imperatives in curricula to promote social cohesion; challenges of good governance a source of poor attitudes; and importance of having role models in society.*

Need for CBET to develop and safeguard ethical values and professional ethics

Most stakeholders interviewed and surveyed were of the view that CBET is expected to develop soft skills and normative behaviour in students in order to contribute successfully to building social cohesion. They stated that strategies to improve social cohesion and normative behaviour among students and society more generally have to be devised. They indicated concern about lack of organisational values awareness among employees and urged the training system to create that awareness among students who are future employees. Most stakeholders interviewed observed that the country is witnessing a serious erosion of ethics in society which in turn affects people's attitudes and social cohesion. Liberalisation was cited as a challenge to attitudes and social cohesion; and they urged the Government to spearhead good conduct and good citizenship behaviours.

Giving his views on the extent to which our provider institutions equip graduates to contribute to building social cohesion R03, a pioneer of CBET in the country, commented that "perhaps they are not doing enough". His argument was based on the fact that the society is witnessing "a lot of erosion of ethics and also strikes by employees". Giving an example, he said that due to an erosion of ethics and a lack of positive attitude "newly employed graduates expect to have everything within a short time; and when they do not meet their expectations they then strike and riot". He cited a recent incident where "young Doctors staged a terrible strike in the health sector after their demands were not honoured by the Government". He stated that the society was in disbelief "to see that a Doctor could be contented with a dying patient; that is unprofessional". He argued that "maybe we are not doing enough in preparing our students to develop the kind of attitudes expected of a profession".

R02, a pioneer of CBET, affirmed that "social cohesion is very important in a country; though is very weak nowadays, almost absent". He observed that though "the curriculum contains some elements of social cohesion the truth is that it has been watered-down". Absence of a strong curriculum on social cohesion "has resulted into intolerance, tension in the top political parties, even students sometimes take on rampage and break windows of public and private

buildings; and this is the property of society". He stated that he would have "loved to have a programme in our provider institutions that attend to democracy". He observed that what is currently offered is "simply lip-service". R03 stated that erosion of ethics "is a challenge to the teachers and the society generally". He asserted that "we have to be mindful of ethics, professional ethics, responsibilities to the poor people, and patriotism, which at the moment seem to be out of hand". He stated further that "poor ethics is the highest among young graduates when employed which could lead to revolt and strike".

Responding to the question on social cohesion R06, an officer representing policy makers, observed that "poor attitudes and bad behaviours of many people in the country, especially the youngsters in schools and colleges, is a result of liberalisation". He argued that "liberalisation has opened some of the things that sometimes people fail to differentiate whether good or bad". He observed that "the fact that the Government's or relevant authority's failure to limit what is covered in the media threatens ethics, attitudes and behaviours of members of the society, particularly youngsters". He asserted that "free press and media are some of the things that have corrupted us and the social cohesion so badly". He affirmed that "whether we include the social cohesion elements in the curriculum and stress on what should be done, the fact remains that liberalisation has given too much freedom to people" to the extent of being spoilt.

R07, an officer from ATE, on responding to the question about social cohesion affirmed that "it is a very big issue because social cohesion in this country is actually crumbling down; things are falling apart". He affirmed that for the social cohesion to be built "the training system has to stress about the key successful drivers such as the right attitude, integrity issues, and honesty; and to be contented with what one has as there are no shortcuts". He observed the tendency among employees "who just want shortcuts, they just want to enrich themselves; they want to get a job today then tomorrow be driving posh cars". He stated that "in life there are no shortcuts". Similar sentiments were also aired by R08, an officer representing TCME, who stated that "there is a big problem with the education system which we need to address". His view was that the education system no longer inculcates patriotism in the minds of the students.

He made reference to the former “National Service” which used to mould the Tanzanian youths after graduation to become responsible citizens. He observed that absence of the National Service these days has created a vacuum in social cohesion. You find the young ones going to the streets and “could do anything in what they call youth violence”. Since “many of them do not have much to do they cause a lot of trouble”. He observed also that “even those who go to Universities also may cause lots of trouble; they rampage even for a small issue which could be resolved amicably”. R08 affirmed that “we need to revisit the whole system of education; the world is changing fast, and we need also to change”.

Inclusion of social imperatives in curricula to promote social cohesion

Respondents indicated that social imperatives should be included in curricula delivered by provider institutions to contribute to the building of social cohesion. R05, an officer from MoEVT representing the policy makers, posited that “we need to include in our curriculum programmes on soft skills that are beneficial to individuals themselves and the community”. He observed that CBET training should “involve working in partnership with the communities” whereby students could be attached to in the local areas to work together with people in the community as a means to build cohesion within the community. R02, a pioneer of CBET in the country, had similar views of “having a programme in the curriculum to emphasize on a social cohesion”.

R04, a pioneer of CBET in the country, affirmed that the issue of “social cohesion very much depends on the specific curriculum of the individual institution”. He stated that “social imperatives should definitely be embodied in the curriculum to include things like ethics, tolerance, behaviour, and attitudes”. He was confident that “if CBET is properly delivered, and if the graduates come out properly prepared, you can be sure of them contributing to harmony”. However, he observed that “when one is idle, has things that are irrelevant; and has gone through training which is not helping him or her, then of course that person becomes a natural student of political fanaticism”.

All technical teachers respondents who completed the survey in provider institutions under the two fields (SAT and HAS) affirmed that the curricula have

provision for soft skills. Most asserted that apart from technical modules of which some address soft skills issues such as management in mines and safety practices in mines, the curricula, for example, contain modules on topics such as communication skills and entrepreneurship and development to cater for crosscutting issues most of which deal with soft skills. They stated that the assignments students undertake as they progress through the programme are meant to allow them to apply the knowledge and skills gained in a real world situation. They confirmed that during their study in colleges and when in the field for practical attachment or study tours students are guided and expected to apply skills of communication, working with others, self-development, problem solving, and decision-making, which again are assessed in different assignments.

They confirmed that the mining engineering curriculum, for example, has a module named social change and development which focuses on social processes and social problem, such as society and cultures, and how they promote democracy, equity, justice, and development of humankind. The respondents from offering nursing institutions confirmed that apart from the crosscutting modules, the nursing curriculum contains modules such as nursing ethics, community health nursing, and management and leadership which focus, among others, on developing the soft skills in learners.

These provisions in curricula, notwithstanding, the respondents affirmed that since most teachers were not oriented to effective approaches of delivering CBET together with pertinent assessment requirements, management of the CBET curriculum would not be as effective as expected. Regarding building of social cohesion in learners, Q02, a technical teacher from an institution in SAT, affirmed that the requirement of the curriculum on soft skills allows trainers to train students about “culture, values, beliefs and respect and their responsibilities in the Tanzanian society”. Respondent Q12, a technical teacher from an institution in SAT stated, that “apart from attainment of learning outcomes, trainers strengthen behavioural attributes of learners through teaching them about developing team spirit, spiritual, physical fitness, unity in natural disaster, unity in protection of motherland and compassion of humankind”. Respondent Q21, a technical teacher from an institution in HAS, opined that by encouraging

students to “work as a team, helping each other to solve problems when they arise, attending meetings for particular purposes, participating in different social organisations, and having students’ government or union” this contributes to shaping their attitudes, behaviours and ethics and thus building social cohesion. Respondents confirmed that “exposure of students to the society setting during clinical or practicum period and fieldwork” build learners attitudes and behaviours (Q18); and emphasise “professional code of conduct/ethics and human rights taught in class” (Q19). Teaching “life skills, ethics, and requiring nursing technician trainees to take oath upon completion of training” (Q27) enable the graduates to contribute to building social cohesion.

Some respondents confirmed that though “technical institutions are ready to produce graduates with required calibre to contribute to the social cohesion; success could not be achieved by the institutions alone” (Q01: a technical teacher from an institution under SAT). Q11, a technical teacher from an institution in HAS, argued that “all institutions need to join forces and work in partnership”. She was supported by Q01 who posited that this “requires valuable support from the industry and the Government in terms of enough funds and learning and teaching facilities”.

Challenges of good governance a source of poor attitudes

Most interviewees and questionnaire respondents posited that good governance is a challenge in Tanzania; and perhaps it contributes to the erosion of ethics and to poor attitudes among the workforce and society in general. R06, an officer representing the policy makers (MoHSW), affirmed that poor attitudes of people and the erosion of ethics in Tanzanian society has poor governance to blame. He posited that “to be sincere the problem started from very higher authorities downwards”. You find that most people are not happy with what is happening. The salaries are not high enough, and people are saying that had we had good governance that spearheads “equitable distribution of wealth and resources life would have been better”. Lack of good governance “has affected the lifestyle”. R06 observed that “issues of attitudes, professional ethics, integrity that shape social cohesion may not be effectively addressed in training institutions alone but

beyond". He was of the view that "good governance" is central in addressing these challenges.

Similar views on the contribution of good governance in building social cohesion were given by R09, an officer from TANNA. He confirmed that provider institutions are trying to equip graduates to contribute to building social cohesion. However, he observed that "the trainees also learn from the environment". He stated that the students come from the same environment we are living in; they observe the practices in the real situation. He posited that "people are not committed, not responsible to their tasks, not honest, the sense of nationalism is flopping rapidly due to lack of committed political leaders in the country".

R09 bitterly attacked the "lack of fair distribution of the resources" in the country, tying this to a source of poor attitudes in the society and an erosion of ethics both in professional and social life". He observed further that "politicians are taking a lot for themselves; however, contributing much less to the country's development". R09 affirmed that "lack of commitment among political leaders and elders, unfair distribution of wealth and grabbing of resources by very few individuals in society shape the behaviour and attitudes of students and CBET employees badly". He posited that the "bad example set by the individuals who are expected to be role models has grave consequences on the behaviour, attitudes and professional ethics of the graduates" as it is most likely that they will imitate this type of bad conduct.

R02, a CBET pioneer, commented that "attitudes and ethics pose serious challenges currently in our society". He observed that "where the country is heading now is not good". He affirmed that "it's time that the Government revives the former system which was in operation during President Nyerere's time where all leaders had to go to Kivukoni Ideological College to be trained on how to be good leaders". He stated that "such training would instil in leaders' minds the concepts and importance of ethics, values, attitudes and social cohesion for them to be role models and spearhead good governance in the country".

R07, an officer representing ATE, observed that “we have challenges of respecting the laws of the land, working hard, being committed. Passion for work is not there; and issues of discipline”. He observed that “we need to develop zero tolerance policy in workplaces. There are a lot of issues that are happening in organisations that need not be entertained”. He affirmed that:

“there must be zero tolerance, especially integrity; having a list of things that are not acceptable at all in the organisation. Developing the values; organisation enlightening, creating awareness to our people about the values of the organisation and that everybody needs to subscribe to the values of that particular organisation”.

On the challenges of social cohesion and whether the provider institutions are equipping the graduates to contribute to building social cohesion, R03, a pioneer of CBET, opined that “the major problem is erosion of ethics and corruption. When people do not see that there is openness and fairness it’s when they resort into unfair deals to get rich fast or protect themselves”. He argued that “if there is no trust, no openness, no good governance, people and the systems are corrupt, that is poison in the society”. He stressed the “need to address these global issues to enable education and training system to function properly, because institutions are not isolated; they are surrounded by a system”. He emphasised “the importance of good governance and systems which citizens would rely upon for their safety and care”. He asserted that:

“if people see that things do not work, they may resort to their own initiatives, which actually harm others; and then the whole system is a fail. Combating and avoidance of corruption and good governance are central in order to develop the system that is mindful of regulations, laws, and constitution”.

Importance of having role models in society

Narratives of most stakeholders in this study indicate that the challenges of attitudes, behaviour and ethics among members of society, including students, result from many sources. Apart from the weakness of the curriculum and of the curriculum implementers to properly address soft skills; the stakeholders opined

that the problem starts from the level of family, primary education system, and good governance.

R07 observed that building of intrapersonal and interpersonal skills which are “soft skills should start from home, with our own children”. He declared that “we should get enough time to talk to our children about what kinds of behaviour are acceptable in society, and what are unacceptable in society”. He affirmed that “parents should be role models to their children; inform them what entails becoming successful in life”. He stated that the primary school curriculum upwards should contain social cohesion issues, and students should be taught about acceptable behaviour in society, positive attitudes, ethics and values. He affirmed that:

“when you talk about zero tolerance it includes corruption, bribery; and from day one our children should know that accepting or giving bribes is unacceptable in society. Children should grow hating corruption. Teaching controversial issues have to start at our home; we should not start at the college level”.

R03, a pioneer of CBET in the country, opined that perhaps the challenge of building social cohesion “results from the way students are being trained”. He “wondered whether the trainers are very good role model to the students”. He also wondered “whether the society is not overwhelmed by other external forces such as the internet and globalisation forces that challenge to contain the students”. He stated that “teachers have to be mindful of ethics” and guide the trainees accordingly. R07 from ATE further posited that “even our faith-based organisations, all faith sects in this country should be preaching about good citizenship, including telling their followers about things that would make this country move forward”. R09 argued that the “Government leaders should be our role models; should be committed to the nation and push aside their personal or individual interests”; national interests should prevail. The “Government should be a stimulant for this”. With a “powerful Government in control, *then the community could become responsible automatically” (R09).

Most respondents in the survey opined that with current meagre financial resources coupled with few teachers and many untrained in CBET delivery and

assessment approaches “graduates are imparted with very little soft skills applicable in workplaces” (Q28: a technical teacher from an institution under HAS). Q22 a technical teacher from an institution in HAS affirmed that “high quality healthcare depends on competently qualified personnel to adequately interact in the community and contribute to good interpersonal relationship”. Technical teachers from provider institutions in HAS emerged “encouraging community field activities and charity work for students” (Q23) and “requiring teachers to be role models” (Q24) in order to build social cohesion. They posited that the education and training provided “should be suitable to address the needs of the community and the nation at large” (Q26).

CBET employees’ competences from the perspectives of employers

Introduction

Discussion in earlier chapters indicated that the quest to develop a TVET system responsive to labour market demand necessitated study and analysis of external and internal environments. It was revealed that through such initiatives, the country was subjected to diverse external and internal factors; and proposed that the factors had an influence on the introduction of CBET in the country. Results from the preliminary investigation conducted to confirm this proposition revealed that the external factors had enormous influence on the Tanzanian CBET. Thus, in order to confirm the validity of the results from the preliminary work two case studies - mining engineering and nursing were selected. The purposes and function of the case studies were to appraise the perspectives of the employers regarding the way they value CBET employees’ competences. Because the mining engineering sector in Tanzania has the monopoly of external investors, it was targeted in order to capture the perspectives of foreign firms on the CBET employees’ competences. On the other hand the nursing sector with monopoly of local employers was selected to capture local influences.

This section is therefore presented in a case-study form using findings from the interviews with employers regarding the qualities and skills possessed by mining engineering and nursing technician graduates in the world of work, and then discussed and analysed. The interview guide focused on what employers

expect CBET graduate employees to possess in terms of competences and an evaluation of what employees actually possess and exhibit in the workplaces. Each case study is discretely reported by presenting the perspectives of the employers and demonstrating the inter-relationship between the criteria in the case-study setting which are guided by the key questions of the interview guide benchmarked against similar studies undertaken in the United States of America, the United Kingdom, and South Africa (*cf.* Griesel & Parker, 2009; Hernández-March *et al.*, 2009) - *competences expected by employers, duties performed by employees, core competences most valued now and in future, basic skills and understanding, knowledge and intellectual ability, workplace skills and applied knowledge, changing workplace practices, network between industry and provider institutions, and building social cohesion*. I then conclude this section by bringing together issues which were distinctive and shared among the study cases.

Study-case 1: Mining engineering

Under this study-case I present the perspectives of the mining engineering employers regarding the competences possessed by mining engineering CBET technician graduates in the world of work.

Competences expected by mining technician employers

When asked about the competences that the firm requires mining engineering technician employee to possess, R11, who is a mining engineer in one mining firm, stated that the mining industry which is currently “characterised by mechanized or large investment in the mine” is a new sector in the country. He posited that the investment has opened up “enough exposure to mining engineers and technicians during field attachment” which was rare or absent during the “small scale mining era” in the past. He affirmed that the exposure students get during field attachment, “when they graduate they know exactly what is going on in the mining sites”. He stated that “mining apart from theory is all about practice; and when a student comes to the industry for the first practical training starts from scratch because theory and practice are two different things”. He confirmed that “students who attend practical training know, to a great extent, what they are supposed to do when employed”. He observed that “the only

challenge which they face, but does not take long time to train is catching up with the system or standards of the particular company”.

R10, who is a metallurgist in one mining firm, stated that their firm would wish employees to come in with good behaviour, observe punctuality, readily communicate and more so when difficulties arise, and the possession of good skills. He declared that when employees report they “could work in the metallurgy or operational sections as operators”. They could work in the “crushing plant, grinding, and carbon-In-Leach (leaching circuit); and everyone should rotate through all these areas to ensure management of tasks demanded by the areas as an operator”. He confirmed that “most CBET technicians from mining technical institutions are able to perform these tasks and normally accomplish the assignments”. He affirmed that they “have good behaviour, are punctual and communicate very well”.

R12, who is a mine observer in one mining firm, stated that their firm “needs someone whose competence is very high in work performance and also whose performance is good”. He confirmed that they also “consider an employee’s cooperation with other employees”. R12 said that their “firm needs someone who has good behaviour, knowledgeable and skilled, someone who works asking himself/herself about what he/she is doing and why doing it that way”. He asserted that “we want to employ someone possessing these attributes for him/her to understand our expectations in the assigned duty/task”.

Duties performed by mining engineering technician employees

Interviewees were asked the question about the type of duties or tasks typically performed by CBET employees at work in the firm. Respondent R11, a mining engineer, stated that “unfortunately every company has got its own standards”. He confirmed that in their firm “technicians work under geotechnical engineering and their duties involve mapping and monitoring; but mostly a good number of them work under geology as ore spotters”. He commented that under geology technicians “do a lot of calculations, do ore spotting, and during mining use controls to manage ore dilution to make sure that ore material coming from the pit

is dumped to the right destination”. R11 stated that “technicians are actually at supervisory level as mining pit supervisors”.

R10, a metallurgist, affirmed that since they belong to the technical department “technician duties include checking the qualities of the operations, and then give necessary advice”. He stated that they “prepare all the technical reports such as daily process report and monthly reports concerning gold operation”. The daily report is the “the main report into the mine communicated and circulated to every level including the management showing gold production level, recovery of gold, and tonnes treated”. Technician employees also “manage belt-conveyor weightometers and make sure that all parts required for measuring the weight are fine”. He posited that other tasks involve “managing mass balance which is calibrated weekly to ensure that accurate tonnes are transferred to the carbon-in-leach tanks after grinding, the technology called rise-test”. The technician also “measures crusher gaps to determine the actual gap according to required specifications; manages input reagents and regularly updates the files”. He affirmed that all these duties are “done very well and within reasonable time”. R12, who is a mine observer, stated that “the mining technician employee is typically in-charge of the mining duties related to drilling and blasting. He/she is expected to provide the drill quality”. He said that since their firm contracts another firm for drilling, the technician “monitors the contractors to ensure they abide by the drilling patterns and powder factor conditions after blasting”.

Core competences most valued by mining employers now and in the future

The respondents were asked about the core competences (skills) which their firms value most in all CBET technicians. I clarified that core competences may include communication (listening, reading, speaking, using technology, and writing); critical thinking (problem solving and applied learning); and working with others (teamwork and diversity). R11, a mining engineer in one firm, posited that in Tanzania the “major language used is Kiswahili”, but “unfortunately most of the big mines currently operating in the country are owned by foreigners to a bigger percentage”. He stated that since the mines have “many people from different countries the major language in use is English”. He declared that “it really becomes a challenge to most people, especially new employees to cope with oral

communication in the environment. Due to lacking such ability to speak English properly sometimes they lack confidence". He stated that "listening and writing are not a problem". However, he confirmed that whenever feedback is needed which is normally communicated orally then technician employees and even some engineers face big problems. R11 further stated that "using technology is another area of challenge" because most of the "mechanised mining use software such as Rurpac, Volcan, Datamine, Gem-com which are used almost in every engineering task" such as in pit design, scheduling, allocation of equipment, etc. He observed that though all provider institutions nowadays have computers unlike in the past; however "exposure to different software and mastery of the same is still a big challenge"; thus affects the competence related to using technology. He however observed that "for an employee, who is committed, motivated and with attitude ready to learn" can learn about the software in use "since basic, intermediate and advanced trainings are offered to newly employed personnel".

On the critical thinking aspect R11 confirmed that "for technician level it is not a big problem" in the firm. He asserted that problem solving in mines involves working together, teamwork, you come up with an idea and you discuss it with colleagues. But due to the problem of confidence with our technicians, aggravated by poorly spoken English, problem solving in a team is challenged. R11 thus posited that "problem solving depends on the language, attitude, and on how ready the person is to work in a team". When asked to give a statement on how he sees technicians exhibiting the core competences on average R11 stated that:

"I cannot say excellent. In mining excellence comes from experience. When someone is employed straight from the college, we are not expecting him or her to start delivering. There is a period where that person needs to be trained. After five years we can now say this person is fairly competent, and we can trust him or her to do his or her job excellently".

R10, a metallurgist, affirmed that the technicians under his supervision communicate well, and "manage to communicate directly with the management". He stated that "they write very good report and are accountable to ensure that the

report is distributed to the entire mine”. On critical thinking, R10 stated that technicians are fine. He gave an example of an employee who “manages software called chart-runner” that works as a process guide to control mine operations and recovery. He affirmed that the “technician produces reports using chart-runner that are weekly presented to the Managing Director” as well as transmitted outside the firm to headquarters; and because of his competence “has been promoted to Line Manager Assistant position”.

On the aspect of working with others, R10 was also comfortable with the teamwork displayed by technicians. He affirmed that “the nature of work in the mines such as maintenance and engineering operations depend very much on teamwork; and the technicians are good at that”. R12, a mine observer, had views that were relatively similar to R11’s perspectives. He affirmed that in his firm “CBET technician employees have challenges of oral communication in English, and also difficulties on working with mine operations specific software” such as model maker and germcom which is Surpac. With communication he posited that his “company is owned by foreigners, and therefore the medium of communication is English, which sometimes may be challenging or a problem to most technicians”. He, however, was comfortable with other areas under core competences.

Responding to the question on the anticipated future core competences most supervisors of mining engineering CBET technicians were comfortable with most areas related to subject competence and some areas on personal competences like being proactive, punctuality, and teamwork. However, they observed that communication, especially speaking and using technology, and practical competence involving use of new technology in mechanised mining need to be improved. Most observed that the major problem is with critical thinking; most of them had reservations and urged that this area be improved. R11, a mining engineer, posited that “we can still improve practical side of mining in our colleges”. He advised colleges to be “visiting and making tours into the mines with video cameras and do some video shooting of the pit, equipments in use and capture operations going on in the pit” for use during teaching and learning in the colleges to “improve on curriculum delivery”.

Perspectives on employees' basic skills and understanding

Employees' attributes covered here include personal qualities displayed by CBET technician employees in terms of basic communication skills and understanding of the workplace for effective work performance. The key issues covered include employees' display of responsibility, self-esteem, sociability, self-management and integrity, honesty, and need for continual learning to be up-to-date. I also present respondents' views about their satisfaction with the practical competence and understanding of the workplace displayed by CBET technician employees such as the ability to identify, analyse and solve technical and design problems. Addressing personal qualities R11, a mining engineer, posited that these attributes "depend on a person". He declared that "some technicians would be very good when newly employed, but once they have the job some would say no need to learn new things". He stated that "some work routinely and not opening up their minds to learn new things". He observed that all this is caused by attitude of some technicians. He gave an example of some technicians who dare to say that "I am not an engineer, I'm not responsible, and I'm doing just what I have been told to do". He termed this a "negative attitude which could lock the employee's mind in one point for some time and thus challenges the aspiration to learn new things".

R11 affirmed that most technicians lack the "attribute of ownership". He stated that "the degree of ownership among technicians is very low. You would hear them say this is not my responsibility, the engineer is supposed to do it; I will just wait for instructions". He asserted that "ownership, attitude, commitment, eagerness to learn are a challenge to some employees". Elaborating further on attitude R11 posited that some technicians and engineers "do not want to start from the shop floor". He stated that "they claim that they went to school not because wanted to become dirty all the time". He observed that this attitude is "a problem and challenges the opportunity to learn new things" to improve workplace environment and production. Similar views on attitude were also aired by R08, the officer representing the professional associations (TCME). He stated that "the feedback we get from mines is that some graduates do not accept the lower jobs, during field work or when employed". R07 affirmed that "in mines whether a technician or an engineer one has to be ready to start from the shop

floor, work there with the 'show-boy', and do all the dirty work". He observed that this is "a negative attitude among graduates which our training systems need to address".

On practical competence and understanding R11 affirmed that "it is driven by exposure". He suggested that "the more and the way one is exposed the better one gets practical competence and understanding". He affirmed that "technicians who are ready to learn, committed to their development really develop their practical competence and their understanding grows every day". R11 stated that "some technicians are running away from exposure to challenges" and this affects their career. He however concluded that "for a good number of employees who are responsible and accountable their practical competence and understanding is good; and could improve further if they continue to expose themselves to practical undertakings". When asked to single out the most important quality or attribute in terms of practical competence and understanding, R11 affirmed that CBET mining technician employees "are very strong at supervision. He however stated that "they are weak in design because after all the system does not provide room for them to do some design works". But for "those who are willing to ask, normally are shown how to design, and are assisted accordingly".

On personal qualities R11 affirmed that though in the past "the firm used to believe that stealing, especially fuel would be done by people on the shop floor whenever they get access to equipment, in 2011 it came up to technician level". He affirmed that some technicians "spotting ore started to steal some ore when the level of pit giving very high ore grade was reached". He affirmed that "those who were found to be involved in this dishonesty lost their job". He stated that "it is unfortunate that when one loses a job for honesty reason in one firm could never be employed anywhere else in big mining industry in this country as they do communicate". He affirmed that the attitude of wanting to "get rich immediately after being employed is a challenge to honesty among some Tanzanians". He observed that though "honesty is a challenge to very few employees, however if one technician steals and goes unnoticed this vice could multiply to others".

On personal qualities R10, a metallurgist, stated that technician employees' roles in their firm "do not require them to make decisions; they only play the advisory role". He however stated that for some duties one could make a decision to "arrest a dangerous situation likely to happen as safety is our first value". He stated that whenever this happens then he/she has to make full written account in the log-sheet of how and why such a decision was made. He confirmed that "employees are good at creative thinking in solving problems" as the nature of work requires them to do so and whenever in doubt they stop the activity and communicate with seniors to rectify the problem. R10 observed that "honesty comprises many issues such as coming early to work, not cheating, not stealing from the company, and time management". He confirmed that technicians in his department have good self-esteem, are honest, and demonstrable integrity. He was happy that "they work very hard, not complaining type, and had never been involved in the issues of dishonesty and theft".

R12, a mine observer and supervisor of mining engineering technician employees, was happy with the personal qualities displayed by employees. He affirmed that cooperation; attitudes, honesty, teamwork, and time management attributes are "on average good". He was particularly satisfied with the "data collection, data processing in computer, and data control" attributes of the employees. Giving an example of one CBET employee R12 affirmed that "she is excellent in supervision, keen in work performance, valuable to the company, follows-up on drilling, blasting and powder factor, collects data and ensures production of correct information needed by the firm". R12 however observed that "provider institutions need to provide more practical and exposing trainees to field practice". He asserted that "emphasis on aspects relating to hands-on experience in, for instance, drilling and blasting, loading of material, and cost controls is important for optimal productivity". He advised that exposure of trainees to mining firms "through visits and study tours could help them to obtain new knowledge on technology in use". He declared that CBET technicians under his supervision are honest, committed, and eager to learn new things; and affirmed that even those who come for practical attachment "most work very hard to be exemplary". He stated that the overall practical competence and

understanding of the workplace displayed by employees in the firm “is average and thus acceptable”.

Perspectives on employees’ knowledge and intellectual ability

This item covers respondents’ views on employees’ display of fundamental knowledge and intellectual ability in the workplace considering such attributes as application of fundamental knowledge along with current techniques and skills to analyse data, interpret and apply results to improve processes. I also present supervisors’ opinions on the way they see CBET technician employees managing resources, emphasizing how they identify, organise, plan and allocate resources. R11, a mining engineer, asserted that CBET technicians “could collect data properly, could interpret data, but analysis of data is a challenge; and that is because they assume that analysis is engineer’s role”. He stated that “they are just there to feed some information, but not to think on why such information is obtained; that needs to be done by an engineer, so mentality sort of thing”. He declared that technician employees readily share knowledge with their juniors, but due to lack of confidence, as previously stated, few could easily share with seniors. R11 confirmed that for “the attributes where they are good, knowledge is applied”. On managing resources R11 stated that most technicians get instructions from engineers to carry out implementation. R11, however, confirmed that employees are “actually good at optimisation of the resources, and manage them according to the standard with appreciation”. He affirmed that “they are really competent technicians on managing resources”.

R10, a metallurgist, affirmed that CBET technicians are very good at managing resources. Citing an example where employees are given Personal Protective Equipment (PPE) as the firm’s first value is safety, the employees handle these gadgets such as helmet, safety glass, gloves, and boots very well. R10 had similar views like R11 on the ability to analyse data, interpret and apply results to improve processes. He affirmed that CBET technicians are “very good in all attributes except in data interpretation”. He observed that “interpretation of data is a challenge even to engineers” and called for “revisiting the curriculum on the aspect of data interpretation” to ensure it is taught very well in colleges and universities. R12, a mine observer, had similar views related to data

management. He affirmed that most employees are “good except on interpretation of data because after the analysis is done thinking of the resulting effects and implications is not effectively done to signal a warning or precaution to supervisors”. Eventually “this manifests to cost implication”. R12 was comfortable with managing resources, however observed they “could be more careful”. He cited an example where a technician is normally involved in assessing costs with the contractor the firm had engaged in some mining operations that “lack of adequate scrutiny by this employee sometimes leads to cost implications to the firm”.

Perspectives on employees' workplace skills and applied knowledge

This section presents views of supervisors on how they see CBET technician employees applying the knowledge gained in workplace practices, including the importance of quality, timeline, and continuous improvement in the field. R11, a mining engineer, confirmed that “they are doing very well in all workplace skills; though they are sticking to the instructions given”. R10, a metallurgist, affirmed that the employees are handling quality issues very well and interlink with other sections to ensure quality in operations”. R10 asserted that “there are some cases where technicians would be more competent than engineers or do the duties which were previously managed by engineers”. He cited some examples such as “the daily report which used to be produced by a metallurgist is now produced by a technician. Also bending, which was previously done by a geologist is now done by a technician”. This confirms that “CBET technicians are very competent”.

Responding to the question of whether CBET mining engineering technician employees consider quality as important in their work R12, a mine observer, stated that the employees “need some kind of support to produce quality work”. R12 however confirmed that the employee “meets the timelines with no problem”. On the issue of continuous improvement in the field R12 asserted that “she is just on average”. However, he posited that it is “difficult to rate her in this because the nature of the work she is assign to ties her in office most of the time”; and thus she doesn't have chance to develop herself professionally. He confirmed that she has zeal to develop professionally if given the chance as she “constantly

improves her computer knowledge in her operations such as in the newly introduced 'US-flow' and 'rising works order' software which she manages well".

Perspectives of mining employers on changing workplace practices

This section presents supervisors' views on the extent to which they think provider institutions equip graduates to adapt effectively to workplace practices which change often. Giving his views R11, a mining engineer, posited that "the institutes need to strengthen the link with the mines". He affirmed that "there are a lot of changes happening in the mines". He gave an example where they previously used "to monitor wall movements using local wedge" and that "nowadays the firm uses radars to scan the area which detect any structure or unforeseen failure and send back signals". He opined that "the link, if established, would facilitate transmission of feedback and updates on the changes from the mines to the provider institutions". He advised that "apart from the practical training which students engage in once a year there is need to be doing study tours as well". He observed that "since each mine has different standards and operating procedures" study tours could be arranged with various mining firms for "students' exposure".

R10, a metallurgist, asserted that "there is need for training institutions and the entire Government to strengthen communication with the mines". He posited that "with the Government's policy on localization of the mines which aims to ensure that by 2016 the entire mines have 97 percent Tanzanian employees" would be realised if early preparation of those to take over the positions were underway. He asserted that "communication and linkage between key stakeholders is very important" to exchange information and feedback. R12, a mine observer, opined that "people involved in curriculum development should be visiting mining sites and industry generally to see what is practised". He affirmed that "such visits could help in seeing types of changes happening, meeting practitioners for exchange of views and knowledge". He advised that "firms with website should use them as medium of communication with the outside world to communicate to the public about changes in the workplace practices".

Perspectives on networks between industry and provider institutions

This section presents the views of supervisors of CBET technician employees about the opportunities available for provider institutions producing CBET graduates to work more closely with industry. On this aspect, R11, a mining engineer, asserted that “some opportunities are available but actually it has to start from the colleges”. He advised that “industrial training chances given to training institutions should be used profitably to establish good working relationships” between industry and provider institutions. He observed that “though every company has its own rules, policies and standards when it comes to employment”, an already existing link could improve matters for technicians looking for employment in the market. He further opined that “the mining market would have been saturated by now”, thanks to most of the experienced mining experts who move outside the country in search of greener pastures in the mining industry elsewhere. He asserted that though “investors look for experienced people, colleges being closer to industry could create many opportunities” such as practical training for students and tutors and employment options for the graduates.

When asked whether he thought having a policy to encourage working relationship between industry and provider institutions would improve matters, R11 stated that “to be sincere that would be the best way”. He affirmed that “even their firm would support the policy” as currently they are discussing about the possibility of localization in which the firm would be run by Tanzanians in the near future. He however observed that “preparations of competent personnel to take over the mines should start now, and the policy could facilitate that”. R10, a metallurgist, opined that “the opportunities are many, but the best ones are to involve the industry in such activities like curriculum development, visiting the mines on study tours or practical attachment for staff and students, and exchange programmes between the mines and institutions”. He opined that “the mining industry could be asked, maybe using a policy, to be recruiting many technicians from our technical institutions” than is currently the practice where engineers are given more opportunities. He gave an example of a “graduate recruitment programme” established in their firm to recruit skilled personnel including technicians; and advised technical institutions to be visiting the mine to inquire

more about this programme and how they could benefit from it. R12, a mine observer, opined that “provider institutions could provide their curricula to the industry to see what is currently covered and request industry experts to provide extra contents as found appropriate; an exchange of knowledge for that matter”.

Mining employers’ perspectives on building social cohesion

This section covers the supervisors’ perspectives on the extent to which they think provider institutions equip graduates to contribute to building social cohesion in the country. R11, a mining engineer, posited that “the National Service” which the country used to have in the past “was intended purposely to put people together and respect their country”. He opined that the National Service’s main agenda was “to sensitize the youths and those who attended the service on the need to “have that degree of ownership, saying that this is my country and I have to defend it to the last point”. He asserted that “we do not have National Service now, but what was done then could be done in schools”. He posited that “students need to be equipped with sense of respect to avoid unnecessary collision or unnecessary misunderstandings in society”. When responding to the question of whether the firm experiences boycotts or chaos from technicians, R11 affirmed that “yes we do”; and he stated that “such people, even at technician level in the firm would stage boycott claiming that they are fighting for their rights”. He stated that such “behaviour or attitude result from lack or weak communication competence among technicians” since the firm has the proper means of communication whenever someone feels aggrieved.

R10, a metallurgist, asserted that “the problem for most Tanzanians is attitude”. He observed that “seriousness about the welfare of the state and on what the future of the country should be among the youth is questionable”. He stated that “commitment, transparency, attitude in general, and ownership are challenges among the youth; and even to top leadership and politicians in the country”. He declared that “there is need for change”. He asserted that change could be brought “through awareness campaigns, introducing civic education in the curriculum, and championing good citizenship agenda among the public”. He opined that the “creation of awareness, teaching good attitude, behaviour and civic education could equip graduates to contribute in building social cohesion.

R12, a mine observer, opined that “students should be taught the importance of tolerance, respect of views of others, and attitudes” which would help to build that solidarity.

Study-case 2: Nursing

This study-case presents the perspectives of the nursing employers regarding the competences possessed by nursing CBET technician graduates in the world of work following the criteria covered under the introduction.

Competences expected by nursing technician employers

Responding on the competences employers need to be possessed by employees when employed, R16, a nurse with an experience of twenty years in healthcare in the country, stated that “we need a person who is knowledgeable of nursing and midwifery issues, having clinical nursing skills, respectful, and skilled”. She stated that their hospital “needs a nurse knowledgeable and skilled in nursing and midwifery procedures; and at least with an idea in research because the hospital deals with data every day”. R15, a nurse with 15 years work experience in healthcare in the country, also stated that “the hospital needs a knowledgeable, skilled, objective, trustable employee who knows solving work-related challenge or problem”. She stated that they would like to employ “nurses who are committed and who possess and observe nursing ethics”. R15 observed that “the current trend shows that nursing ethics are gradually vanishing, and more so in this young generation”.

R14, a nurse in a hospital, affirmed that “knowledge, skills, and behaviours are very important for a nurse in her/his work performance”. However, she observed that “though employees would come with knowledge, behaviour and skills but they would need enough time to be able to get all the competences required in their work roles”. Elaborating on this she said, “though employees could be competent, some aspects which were not taught in detail at the college would lead to failure to detect kind of a problem experienced by a patient or lack of competence to solve it”. R13, a nurse in a hospital, confirmed that “when new employees report we observe them to see how they go about receiving a patient; how the patient is handled and later given the healthcare services sought”. She

opined that nurse supervisors “conduct own observations; and are required to be close to employees fresh from colleges until such a time when they are competent enough to work autonomously on their own”.

Duties performed by nursing technician employees

On the question about the duties or tasks performed by CBET nursing technicians in the workplace, R16, a nurse, asserted that the hospital has two cadres of nurses: “enrolled nurses who study for two years and graduate with certificates, and registered nurses who study for three years and graduate with diplomas”. She affirmed that for the two cadres their “duties differ due to small differences in their courses”. She stated that both cadres perform general basic needs duties such as:

“admission of patients, provision of the basic human needs – feeding, cleaning, bathing patients who are unable, meeting respiratory needs of patients, ensuring that patients open their bowels. They also give treatment as prescribed and as per plan, perform assessment of the patient and come-up with a nursing diagnosis; and plan, implement, and evaluate the plan”.

R16 further stated that the diploma nurses perform “leadership duties which involve leading others, doing ward supervisory roles and making necessary decisions”. On the same question R15, a nurse, affirmed that “since their certificates indicate that they are nurses, we do not select which duties or tasks to assign them”. She stated that the nurses are assigned duties “congruent with the professional level they possess - labour ward and or general ward duties”. R13 and R14, both nurses, had similar views about duties performed by CBET nursing technicians; they affirmed that “nurses are supposed to perform all duties/tasks related to the provision of healthcare services to a patient”.

Core competences most valued by employers now and in the future

The respondents were asked about the core competences which the hospitals where they work value most in all CBET technicians. I clarified that core competences may include communication (listening, reading, speaking, using technology, and writing); critical thinking (problem solving and applied learning); and working with others (teamwork and diversity). On core competences R16

affirmed that in healthcare services “communication is tied with customer care”. She stated that “there is a problem with communication” and that she is “not very much satisfied with how CBET nurses communicate”. With critical thinking she asserted: “that is where the problem is big; they lack critical thinking and this seriously affects their decision making capability”. She observed that with teamwork, it is something which could improve with time. She posited that when graduates new from colleges are employed, it takes time to mix, to work with others; but with time they develop this competence very well”. R15 had views similar to R16 on attributes of communication and critical thinking. She stated that “communication is so bad to the extent that we think that they were not made to understand its importance”. She was also not happy with how CBET graduate nurses work with others. She stated that “even normal teamwork with their co-workers is not very good, and frankly I do not know if they understand the importance of teamwork in facilitating work performance”. She stated that “lack of knowledge about the importance of teamwork in helping a patient makes them think differently on this approach”.

R13 and R14 were of the view that CBET nurses’ core competences are average. R14 stated that “these employees are on the average because not that all have all the competences, and not all do not have them; it is on the average”. R13 was particularly concerned with their ability to “make decision in helping the patient, and the punctuality in making that decision”. She also was not happy with their “teamwork and cooperation during provision of healthcare services”.

Most supervisors of nursing CBET technicians had reservations with employees’ competences in most areas. Most of them associated this weakness with the shortened training duration which had gone from four years for diploma in nursing during former knowledge-based education and training (KBET) system to three years under CBET. R15, a nurse, observed that “graduates of the former KBET had more time in class and got more time for practice” which helped to build their competences. R14, a nurse, also had similar views on duration. She observed that “course duration is a challenge and they graduate when they are yet to understand all these that is why they are worried and lack confidence”. R13, a nurse, also commented that “some stakeholders are saying CBET students have

more time in class and less for practical". She declared that "the problem of short duration compounded with lack of enough teachers in the colleges trained in CBET worsens the challenge".

However, responding on the duration aspect and whether this could be the source of problems related to competences of nursing graduates, R16, a nurse in one hospital, stated "I do not think the duration is a problem, but could be the implementation". She observed that "perhaps the implementers - the tutors are not doing enough, both in class and in clinical areas as nowadays I do not often see teachers accompanying students during clinical field attachment". She stated that "though duration could also be a problem, but the issue of the implementers is a big problem; maybe we were not prepared on that". R16 affirmed that "the curriculum is good, but implementation is a challenge". However, when responding to the question on how true are the views of some stakeholders in this study who are unhappy with CBET nursing employees, R06, an officer representing the policy makers (MoHSW), affirmed that "newly introduced CBET was not well known to trainers and nurses in clinical areas". He confirmed that "since now CBET has been operating for some time we are assured that in two years time quite different views will ensue". He declared that "most of the weaknesses so far observed have been addressed including equipping with skill labs almost of all nursing provider institutions as well as training almost all teachers in CBET".

Perspectives on employees' basic skills and understanding

Similarly, employees' attributes covered here include personal qualities displayed by CBET technician employees in terms of basic communication skills and understanding of the workplace for effective work performance. Key issues covered included employees' display of responsibility, self-esteem, sociability, self-management and integrity, honesty, and the need for continual learning to be up-to-date. I also present respondents' views about their satisfaction with the practical competence and understanding of the workplace displayed by CBET nursing technician employees such as the ability to identify, analyse and solve technical and design problems.

Giving her views on the personal qualities displayed by CBET nursing technician employees R16, a nurse, posited that though it is expected that new employees would likely face challenges “in a new environment due to a lot of anxiety”, however “we expect that after at least three months or so one would change to adapt the situation and start displaying creativity, responsibility, desire to learn and other attributes”. She stated that “this is not happening in most CBET nurses”. She posited that “maybe I am biased because I followed the other system of knowledge-based; but most personal qualities are problematic among CBET nurses”. She asserted that in order to have a good future in the nursing and midwifery profession in the country for provision of medical and healthcare services “something needs to be done urgently”. She stated that “stakeholders are saying that nursing is dying, there is no nursing nowadays”. She observed that “if issues of critical thinking and decision making among nursing trainees and employees are not addressed the future of nursing in the country would be in danger”. R16 affirmed that “though some nurses join the workplaces incompetent but with time some build their self-esteem and continue learning to improve; but most current nurses are very difficult and very negative”. R16 opined that “though some kind of disciplinary measures and counselling are done often, most seem to be uninterested, and the major problem is poor nursing calling”.

Similar views were given by R15, a nurse in one hospital, who confirmed that “CBET nursing employees have problems to display responsibility, self-esteem, commitment, and desire to continue learning” for effective work performance. She asserted that “serious challenges are “on display of responsibility; knowing who I am, and what am I supposed to be doing is a very big problem” among CBET nurses. She opined that “the problem to most employees is on openness and transparency on their weakness which hinder them to seek assistance from their seniors; a serious weakness in attitude”. R15 however affirmed that “they are good in honesty and integrity; and self-management”.

R14, a nurse and supervisor of CBET nurses, opined that “when new employees arrive they are usually quite nervous and not confident, but as they stay and continue working they build up confidence”. She asserted that the “confidence

they build helps them to display good personal qualities”. She confirmed that “CBET nurses we have got here are good on punctuality, teamwork, readiness to learn; though oral communication in English is of particular concern”. R13, a nurse, affirmed that “though they have difficulties in speaking English, but they are okay in report writing”. This was also confirmed by R14 who stated that “they even produce good documentation for a patient”. Though satisfied with most personal attributes, R14 and R13 however observed that “CBET nurses would need more practice in big hospitals” where they would face challenges and how to tackle them so as to build their experience and exposure on requisite procedures performed by a nurse. R13 further insisted on the “need for teachers to follow up their students while in the practice area in order to confirm whether students are practicing what is taught in class at the college”.

Perspectives on employees’ knowledge and intellectual ability

Under this item I present respondents’ views on employees’ display of fundamental knowledge and intellectual ability in the workplace considering such attributes as application of fundamental knowledge along with current techniques and skills to analyse data, interpret and apply results to improve processes. I also present supervisors’ opinion on the way they see CBET nursing technician employees managing resources, stressing how they identify, organise, plan and allocate resources.

R16, a supervisor of CBET nursing employees, indicated dissatisfaction with the way employees apply fundamental knowledge along with current techniques and skills to analyse data, interpret and apply results as well as how they manage resources. She stated that “though we try to train and mentor them they do not easily cope”. She attributed this to “lack of interest among students who join nursing”. She affirmed that “often parents send their children to nursing schools” because nursing “job vacancies” are readily available in the country. Similar views were shared by R15, a nurse in one hospital, who affirmed that in managing resources “these employees are not committed so to say”. She posited that “working with them needs courage and heart, but since they are here we have to help”. R13, a nurse in a district hospital, declared that “a few can manage resources well; but not all I would say, though we “give them orientation

and guidance” on using and managing various resources when they report for work. She however stated that “as they continue working handling improves”. This was also supported by R14, a nurse, when she confirmed that “they slowly catch up though it could be difficult at first, but later they understand”.

Perspectives on employees’ workplace skills and applied knowledge

When asked to indicate their satisfaction with the workplace skills of nursing employees and then ability to apply knowledge (e.g. importance of quality, timeline, and a continuous improvement in the field), nursing supervisors said they were dissatisfied with the application aspect which they said is shaped by the right attitudes. R15, a nurse, stated that nursing employees are “theoretically doing better in their fields of specialisation”, though practically there is a challenge caused mostly by lack of “commitment, self-esteem, and overall attitudes which affect the application of gained knowledge”. Similar support on the poor practical component was given by R16, R13 and R14, who confirmed that nursing employees’ workplace skills and applied knowledge are weak and this is aggravated by poor attitudes; thus “more emphasis is needed on practical exposure to build their experience, attitudes and competence”.

Perspectives on changing workplace practices

Some nursing supervisors gave their views on the extent to which they thought provider institutions equip graduates to adapt effectively to workplace practices which change often. R16, a nurse, observed that “there are some technologies which do change daily which could be very difficult for the institutions to cope with”. She asserted that “provision of enough ICT facilities to enable tutors to search and see how others are practicing is important”. She advised having “exchange programmes so that trainers would see how others are doing”. R15, a nurse suggested that “owners of health training institutions should be medical personnel to promote professionalism among trainees”. She observed that “the current practice where some owners and members of the college management” are not medical personnel “challenges the colleges in keeping abreast with changes happening in the workplaces” and in the medical field generally.

Perspectives on networks between industry and provider institutions

Giving her views about the opportunities available for provider institutions producing CBET graduates to work closer with industry, R16, a nurse, stated that the opportunities are there and “hospitals and provider institutions work together to train the students”. She advised that “tutors should work hand-in-hand with the nurses in the clinical areas in order for students to put into practice theories learnt in class”. She asserted that “there should be a very good collaboration between the hospitals and training institutions, and tutors should be accompanying students in the clinical areas during field attachment like it was in the past”. R15 stressed the need for “provider institutions to work closer with hospitals” so as to be aware of the new equipments in the workplaces, and the eruption and increase of new diseases. She advised that “curriculum development should involve practitioners in hospitals” in order to capture new emerging things in healthcare sector and how to deal with them”. R14 confirmed that “the opportunities are there since linkages between provider institutions and the hospital is well established”. She affirmed that the linkage “facilitates students’ placements for field practice in the healthcare services”. She further asserted that “the linkages are blessed by the Ministry of Health through communication with the hospitals to request for students’ places for practical attachment as well as the personnel to guide them during field practice”. R13 supported R14’s views that “inclusion of community practice module in a curriculum” and sending students to community practice in various healthcare centres is a testimony of such opportunities.

Perspectives on building social cohesion

Nursing supervisors shared their perspectives on the extent to which provider institutions equip graduates to contribute to building social cohesion in the country. R16, a nurse, confirmed that technical institutions “are trying to equip graduates with social cohesion attitude”. She posited that “institutional bylaws address the issue of ethics”. When asked whether the training system is doing enough, R16 affirmed that “it is doing enough, however efforts are undermined by many challenges such as political pressure, multipartism and globalisation”. She opined that “corruption is also a source of many problems as it leads to unfair distribution of wealth” which affects solidarity in the country. R15, a nurse,

argued that “the former unity and collaboration between parents and schools in moulding a child student no longer exist”. She posited that “boarding facilities in many institutions in the former time helped institutions to mould students” in collaboration with parents. She observed that “lack of enough boarding facilities subject students to cumbersome and risky transportation system daily”, and as a result some “students get spoilt along the way or never report to colleges for studies”. She asserted that “lack of enough accommodation facilities in most institutions is a challenge to behaviour among many students” and affects social cohesion. R14, a nurse, opined that “community nursing and nursing ethics modules in the curriculum teach about what is expected of a nurse in terms of behaviour, conduct and values and prepare graduates to go straight to workplaces within the communities”. R13, a nurse, stated that “together with college norms, rules and regulations which ought to be observed by every student” the training system equips graduates to building social cohesion.

Distinctive and shared views among employers in both cases

In concluding this section I use the demonstrated inter-relationship between the criteria to bring together what was distinctive and shared between the mining engineering and nursing case studies. In general terms employers value the practical competence and personal attributes of an employee as important elements for a competent worker. However, a closer look reveals that mining engineering supervisors value more practical competence and nursing supervisors value more personal competence or attributes. The mining engineering CBET technician supervisors were generally satisfied with the competences possessed by the employees, rating the practical competence very high. However, nursing CBET technician supervisors were very dissatisfied with nursing employees’ competence, whether practical or personal attributes.

Distinctive views on *competences expected by technician employers* were on knowing a firm’s standards, good oral communication in English and punctuality for mining supervisors; nursing supervisors were for respect, objectivity, trust and possession of some ideas in research. However, they shared similar views on practical competence, good behaviour, knowledgeable and skilled employee with high competence in work performance and capable of solving work-related

challenges. On *duties performed by employees*, mining supervisors were very satisfied with the employees' competences, while nursing supervisors were dissatisfied. They shared views on performing duties that are professionally specific, such as all technical duties for mining; and duties related to provision of healthcare to patients for nursing. Both shared views on competence in a supervisory role which mining supervisors rated very high in CBET mining employees. Distinctive views were on checking the quality of operations and giving advice done by mining technicians, while with nursing technicians it was performing an assessment of a patient to produce a nursing diagnosis, planning, implementing and evaluating the plan and making necessary decisions. Nursing supervisors were very dissatisfied with the competence of nursing employees in these duties. Though mining technicians have supervisory roles they are not expected to plan and make decisions, these roles are done by engineers; technicians are required to give only advice.

On *core competences most valued by employers now and in future*, the distinctive view from mining supervisors was that most core competences are built through experience, while for nursing it was punctuality in making decisions as this may lead to saving the lives of patients. Shared views on core competence were on oral communication, written communication, using technology, critical thinking, problem solving, decision making, confidence, teamwork and cooperation. Mining technician supervisors were very happy with most of the core competences, save for oral communication in English, use of technology in terms of software used in mining operations, critical thinking and confidence, which they said need improvement. Nursing supervisors on the other hand were dissatisfied with most of the core competences.

On *basic skills and understanding* they shared views on personal qualities displayed by employees in terms of basic communication skills and understanding of the workplace for effective work performance including ownership, commitment, eagerness to learn, honesty, decision making, integrity, self-esteem, self-management, creativity, and responsibility. Mining supervisors were very comfortable with most of basic skills and understanding especially on creative thinking, decision making, and supervision; however some cited

ownership, commitment, honesty, and eagerness to learn as weak. Nursing supervisors were dissatisfied with most of basic skills and understanding saying they are affected by weak critical thinking and decision making, save for honesty, integrity, and self-management which they rated as good. Distinctive views were on ownership, creative thinking, and working very hard for mining supervisors; and openness, transparency, nursing calling for nursing supervisors which they rated as very weak, saying these do affect nurses' desire to continue learning.

On employees' *display of fundamental knowledge and intellectual ability* in the workplace mining supervisors were happy with employees' ability to collect and interpret data and very satisfied with their competence in managing and optimizing resources; however they were dissatisfied with their competence on data analysis. Nursing supervisors were unhappy with such competences, especially with managing resources, attributing this to lack of interest due to poor nursing calling. Distinctive views were on the competence of mining technicians to share knowledge with their juniors while not sharing with their seniors due to lack of confidence, while nursing supervisors cited slowness to catch up though they said it improves with time. Views on *applying the gained knowledge in the workplace practices* mining supervisors were very satisfied rating technician employees very competent. Nursing supervisors were very dissatisfied with these competences attributing such weakness to poor attitude, lack of commitment and weak self-esteem. Distinctive views were on handling quality issues which mining supervisors find excellently done and in some cases more competent than engineers; while nursing supervisors rated theoretical competence of nursing technicians good, but practically very poor.

Shared views on *changing workplace practices* were on strengthening the links and communication between industry and provider institutions as technology is changing fast, involvement of practitioners in curriculum development and establishing exchange programmes and study tours to complement practical attachments. Distinctive views were on the need to establish public communication via websites proposed by mining supervisors, and the provision of enough ICT infrastructure, and encouraging health institutions to be owned by medical personnel as proposed by a nursing supervisor. On the *opportunities for*

provider institutions producing CBET graduates to work more closely with industry views were mostly shared, all confirming that the opportunities are available. However, strong networks between industry and provider institutions would need to be established to promote industrial attachment, study tours and study visits for teachers and students, to involve practitioners in curriculum development, and encourage exchange programmes for teachers to learn in industry and practitioners to participate in teaching. Distinctive views were on the need for the Government to establish a recruitment policy to create employment chances for graduate technicians in mines, and including in nursing curriculum a 'community practice' module that involved students in community practice. Most supervisors in both cases were in favour of legislation to encourage the establishment of networks between industry and provider institutions.

Views on the *extent to which provider institutions equip graduates to contribute to building social cohesion* in the country were largely shared and confirmed that they see training institutions fulfilling this role. However, they advised the following: to sensitize youths and others to patriotism, teamwork, ownership, respect, and the improvement of communication; to conduct awareness campaigns to encourage commitment, transparency, a good attitude, ownership, and good governance; to introduce a good citizenship agenda among the public and anti-corruption campaigns through providing adequate information and involvement of stakeholders in planning and decision making; include in curricula issues on tolerance, a respect for the views of others, good attitudes, good ethics, conduct and values. Distinctive views included the mining industry's suggestion about re-introducing National Service for youths and championing a good citizenship agenda among the public which would develop most of the attributes contributory to building social cohesion. Nursing supervisors, on the other hand, were for the need to strengthen communication between parents and provider institutions, providing enough accommodation facilities for students, and reinforcing training institution norms, rules and regulations.

Perception and translation of external and internal factors at work

Analysis of the CBET origins and debates on the notion of competence covered in Chapter 2 has revealed that the kind of CBET practised in any particular country is shaped by the environment within which it functions.

Stakeholders' perception and translation of external factors at work

Review of the background literatures enabled me to identify several external factors that impact CBET in a particular context - *global/regional economies/markets, regional/international unions and associations, global technologies, and global/regional policies*. These forces also impacted on the Tanzanian CBET, and were therefore tested by carrying out a preliminary investigation in Tanzania to confirm their influence. All stakeholders interviewed confirmed that they do impact the Tanzanian CBET. Again, narratives gathered during the empirical work revealed in detail the stakeholders' perception and translation of these external factors at work.

Globalisation has brought rapid developments in technology and communication which have consequently led to the creation of competitive business, markets and production systems. The competitive environment is also changing very fast. Education and training systems around the world are undergoing constant changes as a result of globalisation as ideas, values and knowledge easily and quickly cross borders producing a shift in society that demands competent individuals to spearhead profitable businesses and production systems for strong economies and wellbeing of society. This corroborates affirmation that globalisation has "eroded barriers to the free flow of information" leading to the "spread of ideas across boundaries" (Rivera, 2004: 43), a phenomenon she terms 'diffusion'. On account of globalisation the world is witnessing the emergence of new technologies, products, markets and competitors that constantly challenge the institutions' competitive positions. After opening borders for private investment, Tanzania entered into a competitive globalised world. In order to adequately compete in a global market, it was thought imperative for the country to introduce CBET so as to develop knowledge, skills and intellectual capacity of its workforce to meet the challenges of the global/regional economies and markets.

The perception of the stakeholders affirm that both global and regional economies as well as markets brought about modes of production demanding highly knowledgeable and skilled personnel to cope with the quest for improved service delivery operated by a lean workforce in the production sectors. Consequently, the education and training system is subjected to more pressure to produce competent graduates who are able to march with ever-changing job demands. The stakeholders' perception resonates well with an affirmation that education and training institutions ought to encourage the production of skilled and competent graduates in order to produce a "workforce for participation in an increasingly competitive global economy" (Mason, 1999: 137). Translation of the factors of global/regional economies/markets faces a number of challenges. The stakeholders suggested that the CBET system had to be structured such that it guarantees competent graduates to enable the country to "meet the challenges of development and attain competitiveness at regional and global levels" (URT, 1999: 5).

However, this political platitude notwithstanding, the country faces severe in insufficient resources and a weak capacity to implement CBET reforms. I concur with stakeholders that implementation requires substantial investment in order to provide for high quality and relevant CBET. There is a need to develop a coherent programme for training technical teachers to effectively deliver and assess CBET. There is a need for high quality and sufficient teaching and learning resources as well as a favourable environment and infrastructure to support CBET implementation. This requires more funds to be "invested in improving the teaching/learning environment, teacher training and development and supply of textbooks as well as other teaching and learning inputs" (Mosha, 2012: 47).

The stakeholders' perception linked *global technologies* very closely to global economies/markets affirming that the "global economy is empowered by technology and knowledge" and that "information technologies are at the heart of the new processes driving wealth creation" (Moloi *et al.*, 2009: 289). These developments encourage labour mobility as a result of free market policies; economic integration and cooperation in which people move from one country to

another either regionally or globally in search of employment and other economic opportunities. This is more evident in countries with weaker economies like Tanzania in which investors may come along with their skilled personnel to manage their investments, if the skills are unavailable in the receiving country. Labour mobility with external experiences is likely to influence local CBET and it is vital that the teaching and learning systems are re-engineered to produce the competent graduates demanded by the labour markets locally. Labour mobility favours people having the right qualifications coupled with the ability and right attitudes to fulfil a role. It implies placing more demands on the Tanzanian education and training system to promote a type of CBET guaranteeing the availability of competent graduates. The argument rightly aligns to Brockmann and colleagues' assertion that "in the context of a changing labour market, the importance of providing a knowledge base that enables occupational flexibility is vital for the social mobility of the individual and for enabling innovative practice (Brockmann *et al.*, 2008b: 234).

Stakeholders' perception and translation of internal factors at work

It is evident that the stakeholders' perception and the way they translate internal factors at work portray a brand of CBET existing in the Tanzanian context. The brand is influenced by institutional features which include the role of the state, the nature of economy and fiscal systems, skills development and control systems, and social partnership interaction (Westerhuis, 2007; Billett and Seddon, 2004; Upchurch, 1997; Young, 2007). It is also apparent that as a result of these features, CBET implementation in the country faces challenges emanating from historical, economic, political, cultural and social practices, which in turn result in a Tanzanian CBET that needs reform in order to address and respond to diverse demands continually imposed on it internally (i.e. country specific) to bring about an effective model of competence for skill formation.

Influence of wider historical and societal factors since independence

The Tanzanian contextual complexities lead to a kind of CBET that exhibits particular meaning within the local implementation environment. The stakeholders' views have led me to concur with the background literatures (Arguelles and Gonczi, 2000; Mulder *et al.*, 2007; Brockmann *et al.*, 2008a;

Biemans *et al.*, 2009; Wesselink *et al.*, 2010) that the internal implementation environment is also never static. It is constantly affected by changes occurring in national priorities, targets and funding, as well as global policies. The views by stakeholders also highlight the influence of the wider environment within which CBET functions, such as the potential markets in the country, existing economic opportunities, nature of communities, cultural and social attitudes, and the extent of resources available to education. These influence the nature of CBET and its consequent manifestations in the country; which in turn produce the form and meaning of the Tanzanian notion of competence.

The influence of internal factors was confirmed by the stakeholders who took part in the preliminary investigation. A variety of factors included: *labour markets, technology, role of regulatory/professional bodies, role of employer groups, recent political traditions developments (trade liberation, etc.), reactions to type of secondary education, and political traditions (i.e. educational system reforms), national culture, political commitment by the Government, role of unions (i.e. trade), neo-colonialism, and production structures*. These internal factors and forces impacting CBET in the country are mediated by the translators such as “educational institutions, professional bodies, industry associations, unions, employers, and government” (Allais *et al.*, 2009: 119) in an endeavour to develop a competent country’s workforce.

These factors are deeply rooted in the processes of transition from colonialism to independence over five decades ago. These include movement from the racially-based and un-harmonised education system prior to independence, through the harmonised education system in post-independent Tanzania that emphasised social partnership in education (Nyerere, 1967), to education for self-reliance built on the philosophy that regarded education and work as “inseparable parts of life” (URT, 1978a: 11). The labour market and technology policies shaped Tanzania’s resolve to adopt socio-economic reforms in the early mid-1980s as a response to the inadequacies of the Government’s “past development policies and strategies” in addressing the “changing market and technological conditions in the regional and world economy” and failure to “adapting to changes in the domestic socio-economic conditions” (URT, 1999: 3).

Adoption of socio-economic reforms in the country came along with the introduction and implementation of various social and economic policies as intervention measures that increased State intervention in education and other social welfare services. The intervention measures include the creation of an enabling environment for private investment in productive sectors of the economy for economic growth, eradication of poverty and improved social conditions (URT, 1999; URT, 2005). Such intervention measures as affirmed by the stakeholders initiated various strategies internally in order to set up a system capable of producing graduates possessing requisite competences demanded by the labour market.

Tanzania has had a number of *educational reforms* since its independence in 1961. The prominent reforms are those brought about by the Arusha Declaration in 1967 with a philosophy of Education for Self-Reliance (URT, 1967). Such reforms were also witnessed in 1999 when the country introduced Development Vision 2025, which among others envisages Tanzania to be a nation which “produces the quantity and quality of educated people sufficiently equipped with the requisite knowledge to solve the society's problems” (ibid: 5). In 1997, the Government further enacted Act No. 9 of 1997 that established NACTE with the mandate of providing a technical education and training (TET) system capable of producing competent graduates required in the world of work (URT, 1997). It is evident that these reforms have had a huge influence on the Tanzanian CBET and the notion of competence. The stakeholders perceived that CBET was introduced in the country in order to address the question of unemployment which resulted from the type of education which was not responsive to labour market demands. They observed that previous education systems did not put an emphasis on self-employment; but under the CBET system trainees are given the requisite competences to enable them to be self-employed. Fieldwork indicated that key stakeholders, including the politicians, need to be supportive of CBET. I argue that this comment by stakeholders emanates from the fact that there is currently a lack of proper networks among technical institutions, industry and other production and service sectors; a phenomenon which gravely impacts on the link between the training institutions and industry/firm/service sectors.

The culture in Tanzania, where the larger proportion of the population lives in villages involved in agricultural activities was originally greatly influenced by shared attitudes, behaviours, values, beliefs and practices. The culture was largely cemented by the social and economic policy termed 'Ujamaa' (the Swahili for 'socialism'/family-hood') developed by JK Nyerere the first president of Tanzania and implemented from 1964 to 1985 during his presidency. The Ujamaa policy centred on collective agriculture under the villagisation programme, with an emphasis on self-reliance at both an individual and at national level which; consequently called for nationalisation of banks and industry after the Arusha Declaration in 1967 for national self-reliance.

The Tanzanian culture was also shaped by the type of education and training that was perpetuated during that time largely targeting more relevancy and appropriateness in serving the needs and goals of a socialist society with a predominantly rural economy (Nyerere, 1967) in which national education meant:

the instruction or training of persons of all ages in various fields of learning designed to contribute to the spiritual, moral, mental and physical development of the community, and to the attainment of the wider national goals of ujamaa and self-reliance (URT, 1978b: 6).

With towns and cities expanding to accommodate bigger populations, and the number of educated people increasing, modes of production and production structures are increasingly changing to accommodate emerging socio-economic and technological advancements coming along with cultural diversity. Varied means of production as a result of global trends and cultural dynamics brought about by improvement of the mind through education and training have consequently exerted too much pressure on the education and training system to produce competent graduates sufficiently equipped to respond to labour market dynamics. Thus, the traditional education which had emphasis on hands-on, self-reliance, and participatory training had to take on an improved form, which is CBET, in order to cope with the challenge; thus making culture one of the factors that influenced the Tanzanian CBET and the notion of competence. However, the comments from stakeholders indicated that the fruits of CBET are hard to reap because its delivery may not yield the expected competent graduates.

Other views by stakeholders regarded the introduction of CBET in Tanzania as being the influence of neo-colonialism (see Appendix I) in which formerly colonised states like Tanzania are still dominated and controlled directly or indirectly by their former colonial masters (Tikly, 2004). Their argument is based on the fact that CBET is a borrowed policy in Tanzania, however without adequately researching about what it could possibly achieve. The liberalisation policies introduced in the country in the 1990s opened borders for foreign investment. The country had no alternative but to embrace the CBET policy practiced in the countries of former colonial masters to produce technically skilled graduates to work in their investment enterprises locally. Thus linking CBET closely with technical skills more than with soft skills such as values, attitudes and behaviours which bound the country citizenry in the past to observe and promote the civic character (DeRoche and Williams, 2001) fundamental for the Tanzania' socio-economic development. From the views of stakeholders, due to *neo-colonialism*, developed countries had much influence on socio-cultural and economic activities of the developing countries (see Appendix I). After liberalisation of economy, influx of investors in Tanzania came along with their modes of production that contributed to the pressure to introduce CBET in the country. I affirm and concur with the respondents that the production structure of any country has an influence on the kind of training to be adopted. Thus, the production structure in the country soon after liberalisation of the economy has indeed influenced the type of CBET and the notion of competence.

The role of mediating bodies and the lack of capacity

The narratives by stakeholders about the internal factors at work reveal that they are principally cultural, social, political, and economic which through 'mediation' and 'acts of translation' masquerade as "limitations of policy borrowing" (Steiner-Khamsi, 2006: 666). The principle mediators are Government, employers and employer organisations, trade unions, regulatory bodies and various aspects of the education service.

However, as discussed in later sections, the process of internal mediation, reflection and communication lacked certain qualities, making it difficult to put CBET into practice. There was a general lack of understanding of CBET

practices and experiences by many of the stakeholders who took part in the design and development of CBET in the country as confirmed. Some interviewees pointed to a low reading and research culture among the Tanzanian population. What resulted was not a systematic understanding of the design and development of the envisaged CBET. Instead, there were patchy ideas and lack of deep knowledge about the challenges and experiences of CBET development and implementation in the countries considered as having the best CBET practices. This gravely challenged the Tanzanian CBET developers and its consequent implementation. Moreover, most stakeholders never followed up the kind of CBET being implemented after they had developed it. Systematic internal translation was thus weak.

Government

While translating internal factors at work the stakeholders' perception on *political commitment by the Government*, as well as the *role of trade unions* was that though they influenced the Tanzanian CBET and the notion of competence, Government will is lacking to support financing CBET implementation, as well as instituting a committed and ethical society. Apart from the Government's commitment to the introduction of CBET in the country through its enactment of policies, Acts, laws and other statutes supporting educational reforms for improved service provision in the various sectors of the economy, it has failed to develop an enabling environment in terms of the infrastructure and support for CBET implementation. The presence of an acute shortage of teaching and learning resources, trained teachers in CBET delivery and assessment, and adequate funds for CBET implementation is an obstacle to CBET endeavours in the country. Although NACTE Act stresses the need to register technical teachers and technicians supporting training, however, little has been done to this end in terms of developing their competences on CBET delivery, facilitation, and assessment.

Trade unions

Views of stakeholders on the *role of unions (i.e. trade)* were echoed. They affirmed that trade unions are vital in the overall CBET development in the country as they are considered as advocates of good working conditions and

employability. However, the unions (i.e. trade) are inactive in this regard, with less interest on training. One possible explanation for this could be lack of CBET awareness on the part of Unions and absence of a properly instituted national network to link the training providers, the regulatory/professional bodies, employers, Government and other key stakeholders in order to interact and enjoy shared vision. Views from respondents confirmed that in Tanzania there is lack of shared vision for developing a competent national workforce for the country's economic development and ethical society.

Regulatory bodies

The CBET pioneers and policy makers affirmed that for a credible and effective implementation of the 1996 technical education and training policy to be realised, it was imperative to analyse strengths and challenges available in the country. Accordingly, a number of educational and professional regulatory bodies in the country such as the former Higher Education Accreditation Council (HEAC) presently Tanzania Commission for Universities (TCU), Vocational Education and Training Authority (VETA), National Board of Accountants and Auditors (NBAA), former National Board of Materials and Management (NBMM) currently Procurement and Supplies Professionals and Technicians Board (PSPTB), and National Examinations Council of Tanzania (NECTA) were consulted for their experiences on matters relating to standards setting, development of modular training programmes, administration of examinations, quality control and quality assurance, and monitoring and evaluation systems (NACTE, 2003b; NACTE, 2010).

Internal analysis also included the employers, trade unions, and other regulatory and professional bodies such as Tanzania Nurses and Midwives Council (TNMC), Medical Council of Tanganyika (MCT), Engineers Registration Board (ERB), Contractors Registration Board (CRB), Architects and Quantity Surveyors Registration Board (AQRB), National Council of Professional Surveyors (NCPS), and State Mining Corporation (STAMICO) of Tanzania (NACTE, 2010). These groups acted as translators of external and internal forces acting on the envisaged technical education and training system according to the policy. The views of stakeholders (i.e. representative of ATE) affirmed that the employers are

represented in the Association of Tanzania Employers (ATE), the Confederation of Tanzania Industries, the Business Council of Tanzania, and the Trade Unions. These stakeholders were of particular importance with regard to meeting the labour market demands. Their involvement and participation specifically in work related to curriculum development and occupational standards setting had an important spin-off effect in terms of aligning technical education to labour market demands (NACTE, 2003b; NACTE, 2010); however lack of adequate CBET awareness and expertise defied their input.

Labour markets, employers and technological change

The stakeholders also revealed that the factors like *labour markets, technology, and role of employer groups* have been influenced by the presence of many foreign companies currently operating in the country after the Government opened its borders in early 1990s. Advancement in technology resulted in diminishing labour markets since with advanced machinery and computer technologies including ICT, less manpower would be required. Consequently, many graduates had to compete for fewer available places; a situation that favours more skilled, knowledgeable and competent workers. In turn this has fuelled the demand for a strong CBET implementation environment in the country, and in the technical institutions delivering CBET in particular. However, stakeholders revealed that the current country's poor economy inhibited the availability of the favourable physical and human infrastructure environment for CBET implementation. This suggests the importance of providing the required infrastructure for the CBET system in order to match with the "rapid changes in the composition of labour markets and industries" (Cockrill and Scott, 1997: 344).

The stakeholders' views indicated that technology demands highly skilled individuals, and it changes very quickly. CBET is thus regarded as important to assure availability of competent graduates who are rightly prepared to cope with fast changing technologies. However, technology in the country may not be advancing fast enough. Therefore, there is need for the Government and other stakeholders' intervention to ensure provision of an environment conducive for smooth and quality delivery of CBET. Conducive environment would include, for example, properly trained CBET facilitators, sufficient and efficient teaching and

learning resources, good linkages between technical institutions and industries/firms for students' and tutors' practice. The general trend is towards economies that are increasingly reliant on "an organisation of work characterised by greater use of technology" within what is currently termed 'knowledge-based' society (Brockmann *et al.*, 2008b: 549). Despite the slow pace of technological advancement in Tanzania employers will, nevertheless, continue placing greater emphasis on the competent workforce for effective management of the "whole labour process and [able] to deal with 'risk' and unpredictable situations" (ibid: 549).

The views of stakeholders affirmed that *employer groups, recent political traditions developments (trade liberation, etc.), reactions to type of secondary education, and political traditions (i.e. educational system reforms)* are among the internal factors at work with influence on the Tanzanian CBET and the notion of competence. The development of recent political traditions development is confirmed by the introduction of free market policies in the country in the early 1990s that set a base for a free market economy typified by the emergence of the private sector "playing a greater role in job creation as compared to the government and parastatal sectors" (Kaijage, 2001: 2).

Accordingly, employer groups are involved in various committees taking part in CBET curriculum development to ensure that employer demands are met and reflected in the curricula. However, their contribution is based on a very low understanding of CBET. Coupled with lack of research and development in the design, development and implementation of CBET in the country in the form of reflective action research, together with monitoring and evaluating skills, it is difficult "to gauge the impact of the initiatives" (Moshia, 2012: 47-48). Such research would enable teachers and other key stakeholders to "uncover the problems and issues pertaining to specific contexts, as well as the values, attitudes and behaviours of the community that affects [CBET] learning" (ibid: 48; DeRoche and Williams, 2001).

Educationalists

Lack of understanding of competence is also found in the education sector. Although a competence-based curriculum (CBC) was introduced into the Tanzanian primary school and secondary school levels in 2006 (Wood, 2008; Kafyulilo *et al.*, 2012; Mosha, 2012) and 2005 (World Bank, 2011; Kafyulilo *et al.*, 2012) respectively, most interviewees had no knowledge of its existence at these lower levels in the country. While lack of this knowledge could be attributed to a lower reading and research culture among the Tanzanian elite population, as well as a lack of stakeholders' involvement and public awareness campaigns on the introduced CBC there could be other reasons. Had the introduction of CBC at lower levels occurred with the necessary 'bang' involving imparting teachers with the "requisite competences", developing "teachers' guides and basic textbooks", improving the "classroom teaching and learning environment", improving "teaching and learning facilities and equipment to support the new curriculum", and supporting the teachers to improve their quality and commitment through continuing professional development (Mosha, 2012: 41), the public would have known and felt the presence of CBET in the country. However, as Mosha and Kafyulilo and colleagues affirm, its implementation at the two levels is gravely challenged by various weaknesses including the absence of adequate implementation of requisite "teaching approaches" and the lack of teachers and trainers training and development (Mosha, 2012: 8; Kafyulilo *et al.*, 2012: 346). This is another reflection of the lack of planning and resource intensive approaches required for successful policy implementation.

Absence of an effective CBET at lower levels, particularly at the secondary school level which feeds the tertiary level, challenges the smooth progression of CBET at technical and other higher levels. Since both the primary and secondary education sectors deliver many graduates who will not be fully absorbed by the tertiary sector, the technical education sector included; the presence of a robust CBET in the country even at these levels would be likely to enable the graduates to engage in various productive endeavours, such as self-employment.

Government's support to the CBET implementation environment

Despite most technical institutions fulfilling minimum registration requirements before being approved to deliver the CBET curriculum, most interviewees were of the view that CBET practices are challenged by many factors which impair the intended objectives. The narratives indicated that CBET is resource intensive. The interviewees posited that the system is gravely challenged by lack of adequate political will which is a compound problem impacting the funding stability of CBET practices. The problem of trainers lacking suitable CBET teaching and learning capability coupled with the inadequate involvement of stakeholders in CBET development and implementation, as affirmed by stakeholders, it is evident that the possibility of the Tanzanian CBET system successfully producing a competent graduate is doubtful unless corrective measures are undertaken.

Document analysis has also revealed that declining capacity for funding TVET activities, including CBET implementation, is a major challenge. The TVET policy indicates that “nearly all TVET institutions have ageing and outdated equipment, machinery and tools as well as laboratories and workshops equipped with inadequate physical facilities and learning materials” (URT, 2012: 5). The policy acknowledges that “TVET is an expensive under-taking which demands the availability of adequate and long-term investments in addition to highly trained manpower”. It is clear that CBET undertaking in the country is gravely challenged by the financial, physical and human resources base. Recognising the fact that “there exists few qualified, competent and motivated teachers in TVET institutions” (ibid), effective implementation of CBET is at stake unless the Government will to finance and support CBET practices is guaranteed. However, I argue that the funding of TVET activities, which includes CBET practices, should not be the responsibility of the Government alone. There are key individuals and organisations which have a stake in the system that indeed enjoy the benefits accruing from well-functioning TVET and CBET systems. I thus concur with the TVET policy affirmation that:

in a modern market economy the government and the private sector must recognize that TVET is an investment, not a commodity, with significant returns

seen as the well being of workers, enhanced productivity and international competitiveness. It is important therefore, that funding for TVET must be shared to the maximum extent possible between government, industry, the community and the learner (URT, 2012: 8).

The Government's declaration in the TVET policy that the six percent of the wage bill as a skills development levy (SDL) which it collects from private enterprises for which "technical institutions have no access" will now be distributed to support the overall TVET activities; and inclusion in the TVET policy of a clause on "funding and financing mechanisms" (ibid: 15) I argue, is a good sign of the Government will and commitment to providing an environment for ensuring that funding and financing TVET provision is adequate and sustainable. However, adequate and sustainable funding and financing of TVET provision is dependent on the creation of adequate awareness and sufficient sensitisation of "individuals, business, trade unions and community organisations" to participate effectively in TVET endeavours. With the funding and financing arrangements from these stakeholders groups to supplement the current efforts of financing the TVET system through the "SDL, budgetary appropriations from ministries, limited donor funding, user fees and institutional income generating activities" (ibid: 15), the current challenge of inadequate funds to support CBET practices in the country would in future be lessened.

The narratives of the supervisors of the CBET mining engineering technician employees indicate that employers are satisfied, to a great extent, with the competences exhibited by the employees in the workplaces. They indicate that graduates do portray the competences expected by employers of this cadre in the workplaces; and state that the CBET mining engineering technicians possess most of the core competences highly valued in the workplace. However, they have reservations about employees' oral communication ability, confidence, responsibility and use of technology in terms of the software mostly used in mechanised mining. The supervisors indicate satisfaction with the practical competence and understanding of the workplace displayed by mining engineering CBET technician employees. They confirm that most basic skills and understanding are well developed in the employees; and the attribute of

supervision is excellent among technicians. However, some employers doubt the ownership attribute among many technicians which is observed to affect their attitude, commitment, and eagerness to learn. They also advise provider institutions to offer more practicals and to expose trainees to field practice to further improve on aspects related to hands-on experience in, for instance, drilling and blasting, loading of material, and cost controls for optimal productivity. This challenge results from the weak emphasis on soft skills in the curricula and the inadequate capacity of teachers and trainers to deliver and assess CBET. I suggest the Government should support the development of the “teacher and trainer competence and effectiveness” because they “are the cornerstone” of Tanzania TVET reforms (Cedefop, 2009: 28). I concur with Cedefop’s affirmation that teachers and trainers “are required not only to be up-to-date professionals, but also education systems and governance experts, aware of the implications of new institutional arrangements as well as being able to dialogue with industry and the local community”, thus working as “ground agents of change” (ibid: 33).

The supervisors of mining engineering CBET technician employees are generally satisfied with employees’ display of fundamental knowledge and intellectual ability in the workplace. Most supervisors are very happy with the way CBET technicians manage resources. However, they observed that most of them have difficulties with the analysis of data. Most supervisors are very satisfied with the level of employees’ application of knowledge in the workplace. Narratives confirm that most technicians are very competent in these attributes. However, it is observed that they often stick to given instructions, which calls into question the proactive attribute of competence.

The supervisors of mining engineering CBET technicians are of the view that there is a need for provider institutions to strengthen the link with the mines in order to equip graduates to adapt effectively to fast changing workplace practices. The supervisors are of the view that networking between industry and provider institutions is vital for assessing what is currently happening in the industry and how the same could be included in the curriculum to enable production of a competent workforce. They observe that there are many opportunities to benefit from networking provided the colleges are proactive.

They support the need for legislation to encourage and promote such networks. On social cohesion, the supervisors of mining engineering CBET technicians are of the view that this is a very important feature as it would contribute to unifying people and inculcating a sense of ownership, respect for the laws of the land, and the right attitudes. Social cohesion is observed to be important in making graduates and society serious about the welfare of the state and the future of the country. They affirmed that building social cohesion in graduates could give them a sense of commitment, transparency, tolerance, and respect for the views of others, the right attitudes and ownership.

On the other hand, narratives of the supervisors of CBET nursing technician employees indicate that employers are considerably dissatisfied with the competences exhibited by the CBET nursing employees in the workplaces. Most supervisors indicate that CBET nursing graduates barely displayed the competences expected by employers in the workplaces; and are weak in most of the workplace core competences. They asserted that oral communication, be it in English or *Kiswahili*, which is vital in healthcare services regarding customer care is a challenge for most CBET nursing employees. Employers indicated that there are even more serious challenges with critical thinking, stating that it is so weak that it affects employees' decision making capability. Most supervisors are also dissatisfied with teamwork among CBET graduate nurses. They assert that even normal teamwork spirit and cooperation with co-workers are not good; and as a result their performance during the provision of healthcare services is seriously impeded. Most supervisors associate this weakness with the shortened training duration from four years for a diploma in nursing during the former KBET system to three years under CBET. They assert that the problem of short duration, compounded with lack of teachers in the colleges trained in CBET, aggravate the challenge. However, narratives from one supervisor indicate that the duration could not be a big problem as the curriculum is good; she observed that the problem could be in the implementation.

CBET nursing technician supervisors are also dissatisfied with the personal qualities displayed by CBET nursing employees. There are serious concerns about nurses' creativity, responsibility, and desire to learn. Most supervisors are

of the view that the future of the nursing and midwifery profession in the country is in danger and needs urgent corrective action. Supervisors posit that such concern is also echoed by other stakeholders who see the nursing profession dying nowadays, with major challenges in relation to issues such as critical thinking and decision making. The supervisors observe that the self-esteem and continued learning attributes are so weak that most CBET nurses are very difficult and very negative. They attribute all the weaknesses to problems of poor nursing calling among youngsters joining the nursing profession. They also indicate that employees have problems to display responsibility, self-esteem, and commitment for effective work performance. Narratives indicate that the issue for most nursing employees is openness and transparency. They connected this to employees' poor attitude which prevents them from seeking assistance from their seniors. However, some supervisors indicate that nursing employees are good in terms of honesty, punctuality, integrity, and self-management. The narratives also reveal supervisors' dissatisfaction with the way CBET nursing employees manage resources. They attribute the problem to lack of interest among students as often the decision to join nursing is mostly to please their parents whose interest lies in the nursing job vacancies readily available in the country.

CBET nursing supervisors have similar views on changing workplace practices as those of CBET mining engineering technician employees. They advise that for institutions to cope with changes there is a need to provide enough ICT facilities, exchange programmes between hospitals and institutions, and having owners of health training institutions who are medical personnel to promote professionalism among trainees. They confirm that hospitals and provider institutions usually work together to train students. However, they indicate the need for teachers to work hand-in-hand with nurses in the clinical areas in order for students to put into practice theories learnt in class. They indicate that working more closely with hospitals would help institutions to be aware of some of the new developments happening in the industry. On social cohesion CBET nursing supervisors concurred with the views of those of CBET mining engineering technicians. They observed that technical institutions are doing enough to equip graduates to build social cohesion; however they affirmed that efforts are undermined by many challenges such as political pressure, multipartism, globalisation, and corruption.

The findings from the cases (mining and nursing) underscore the need for closer engagement between the industry and provider institutions to enable the trainees to acquire the competences demanded in the world of work. The engagement would help to chart out ways to narrow the gaps between what the curricula provide and what is demanded by the world of work (i.e. employers, and the society). This entails “developing a common understanding” of the “nature of perceived gaps”, and of “ways in which the gaps can most effectively and creatively be addressed on both sides of the interface between [provider institutions] and the world of work” (Griesel and Parker, 2009: 19). The findings corroborate ATE’s affirmation that Tanzania relies heavily on the private sector for GDP growth; yet the sector faces “many constraints..., the most serious of those constraints being the shortage of skilled labor” (ATE, 2008: 3). ATE confirms that the country’s “workforce lags behind in adopting technology and investing in innovations that improve production output and competitiveness” (ibid: 3), as was echoed by all supervisors.

Summary on implementation and adaption of the concept of competence

Stakeholders’ narratives suggest that the introduction of CBET in Tanzania initiated diverse processes by actors while receiving, interpreting, adopting, implementing and adapting CBET practices. Through ‘mediation’ it has been possible to present the views of stakeholders on the way they see a range of actors interacting with the CBET policy, and through ‘translation’ I have presented the way diverse actors of the CBET policy in the country perceive the interpretive acts. The narratives reveal what stakeholders view as demand brought about by the introduction of CBET in the country and how they are translated to implement CBET. The demand which stakeholders construe as challenges after the introduction of CBET in the country initiated efforts to establish CBET regulatory frameworks and structures such as a TVET policy in order to shape CBET practices. Through the context of policy text production following work done on the context of influence by the pioneers of CBET and other stakeholders (Bowe *et al*, 1992; Ball, 1998), a regulatory body (NACTE) was established to oversee the quality of training in technical institutions (URT, 1997). The narratives reveal that the advent of NACTE initiated diverse approaches for effective CBET

implementation such as the establishment of the national qualifications framework (NQF), and the development of various guidelines and procedures in collaboration with diverse CBET stakeholders in the country (NACTE, 2001a; NACTE, 2001b; NACTE, 2004b; NACTE, 2004c; NACTE, 2004d; NACTE, 2004e).

Stakeholders' narratives indicate that though CBET is perceived by many stakeholders in the country as an appropriate approach for skill and competence formation, there is a problem with the contextual environments within which CBET is implemented. The narratives indicate that CBET practices are challenged by many factors, the major ones being meagre resources, inadequate political will and funding stability, and inadequate capability of teachers and trainers to deliver CBET curriculum and effectively conduct assessment. Most stakeholders pointed out clearly that CBET is resource intensive, and the worry is that an unstable funding base gravely challenges its effective implementation. Narratives further show that had there been adequate political will TVET institutions would be properly funded via the skills development levy (SDL) initiatives; and even teachers would be trained in CBET delivery and assessment. Other challenges evident to be impacting CBET practices in Tanzania include an inadequate level of involvement of stakeholders in CBET development and implementation, as well as an absence of adequate CBET strategies at lower education levels in the country. With the level of involvement mixed feelings ensue among stakeholders according to their function and relationship to the state, where those functionary-related to state are happy with the level of involvement while others less related are skeptical.

On networking between industry and provider institutions the narratives show that most stakeholders are unhappy with the level and the way the industry is involved in curriculum implementation and CBET practices. The views indicate that the lack of a closer working relationship between industry and provider institutions challenges the performance of graduates in the world of work due to missed exposure to what happens in the industry practically. Most urged provider institutions to be proactive and take the lead in networking with the industry since students and staff would benefit through field attachment. Suggestions were

advanced on the need for exchange programmes between industry and provider institutions to encourage experts from the field to teach in institutions and trainers from institutions to be attached to the industry for practical training. For the networks to happen, most stakeholders suggested legislation; however, a few stakeholders favoured voluntary mutual collaboration. For industry and provider institutions sharing the same 'local ecologies' the networks could facilitate joint forces to address allied CBET challenges via shared resources within a given locality (Spours *et al.*, 2007).

Narratives attached a strong emphasis to the role of CBET to promote social cohesion and normative behaviour. They indicate that the CBET curriculum with an emphasis on soft skills and proper implementation is likely to contribute to building social cohesion. The suggestion was for CBET to develop and safeguard ethical values and professional ethics, which are currently weak in most organisations, professions and among employees. They urged the training system to create organisational, professional and ethical values among students who are future employees in order to redress currently witnessed serious erosion of ethics in society which in turn affects people's attitudes and social cohesion. Numerous suggestions were made including: inclusion of social elements in curricula; an emphasis on key successful drivers such as the right attitude, integrity, honesty and contentment among trainees; the importance of good governance in the country which respects openness and fairness; creating conducive and trustful social environment devoid of corruption, embezzlement, and other unfair deals; and having role models in society for students to learn from. It is crucially important for all players in the country to understand that "social cohesion implies strong communities, low rates of crime, and other social benefits for the individual"..., and "also implies inter-community cooperation and social solidarity across communities and social groups"; which are "likely to be enhanced by relative equality of incomes, strong social institutions and the prevalence of societal attitudes such as trust and tolerance" (Cedefop, 2009: 16). I support the suggestion for partnerships among all stakeholders in society right from family level to build social cohesion as the provider institutions alone would not manage such task.

The networked relations discussed above have a crucial role to play for CBET practices to be efficient and effective. The views and the way they are discussed and analysed indeed indicate functioning of the country's internal networking to support CBET practices. I argue that internal networking ought to be much stronger for CBET endeavours; else it could negatively affect the mediation process.

Part III: Reflection on stakeholders' perspectives: competence as modernising and opening influence?

Introduction

Under the previous parts I have presented the narratives of diverse stakeholders that mediate CBET policy in the country. Different debates taking place around the competence model as informed by the stakeholders have been presented. The views presented so far have indicated an increased interest countrywide in the relationship between technical education and the workplace spearheaded by the introduction of CBET in the country. The narratives have indicated that substantial reforms of the technical and vocational education and training (TVET) system have been undertaken involving significant changes that led to the introduction of CBET in Tanzania. These reforms include, among others, instituting TVET regulatory frameworks and structures to create an effective environment for CBET development and implementation. The reforms also include endeavours to make TVET more responsive to industry requirements; attempts to involve the industry, professionals and other stakeholders to develop competence standards that are occupational and employment-related; the introduction of a national vocational and technical qualifications framework to facilitate student progression and transfer from one level of education to another; an effort to increase technical programmes and more TVET student numbers to address skill challenges of the workforce.

All these reforms became evident in Tanzania in the late 1990s and early 2000s. They were influenced by the country's efforts to liberalise its economy in the wake of technological changes worldwide resulting from globalisation forces which called for industry restructuring and changes in the capital and labour markets. The reforms in Tanzania are Government led but in partnership with other key stakeholders are characterised by involvement of influential people among who are non-education professional stakeholders. Such reforms and involvement of key stakeholders in the development of occupational standards and curriculum cause CBET to be seen as a modernising and opening influence.

I use the term ‘opening influence’ to mean increased interest in TET and pertinent developments that ensued in Tanzania after CBET was introduced in the country.

In Part III I present the views of stakeholders which regard CBET as a modernising and opening influence. The narrative of stakeholders’ views is led by the *local CBET operational implications* tool of the analytical framework. The presentation is guided by the main sub-themes that emerged from the stakeholders’ talk including *expectation of CBET to improve the workplace skills*; *acceptability of CBET by stakeholders*; and *flexibility advocated by CBET*.

Expectation of CBET to improve workplace skills

Most stakeholders interviewed and surveyed were of the view that CBET could *improve the workplace skills* of the country’s workforce which in turn would improve productivity in industry and other workplaces. They affirmed that the more encompassing definition of CBET in terms of hard skills and soft skills facilitated the development of a CBET curriculum, which, if well delivered and assessed would guarantee production of competent personnel demanded by industry. They opined that CBET strengths could contribute to addressing the employability challenges in the country. However, they were of the view that the CBET system needed to be informed by evidence-based research, observe industry and organisation cultures; be properly funded; and closely monitored to obtain feedback for ensuring effective implementation. Respondent R03, a pioneer of CBET in the country and a retiree, stated that:

“education changes take time. It takes time to develop a system and also people working within that system, and getting the results. Though now we have a system in place, but it will take a little bit of time to see the results”.

However, he affirmed that “taking example of the health sector, I see changes in the processes. We developed the curricula, we trained teachers, we are doing some renovations in order to make environment conducive for training and getting training equipment”. He opined that “there are changes that are taking place already in the health sector; and in the other sectors as well”. R03 confirmed that “we should be seeing results, but we should be open to observe

and learn from what is taking place so that we do not lose track of developing competence education”. He further opined that the future vision of CBET in Tanzania is bright and confirmed that “CBET is the way because training is always for a purpose”. He observed that the country is still developing, and thus needs experts. He was optimistic that a suitably delivered CBET could guarantee “properly trained students who are innovative human resources”.

Respondent R07 from the employers association (ATE) affirmed that CBET has been accepted in the country due to the perceived potential for competence development of the trainees. He opined that “the competent output from the CBET system could help to improve productivity in the workplaces”. Also R08, an officer from the professional association (TCME), stated that “CBET’s major strengths rest in its capacity to produce graduates who are of value to the company; graduates who work in the industry to generate the production”. He confirmed that “he hails the Government for starting CBET” because it has revolutionised the workplace competence landscape; and “graduates in the mining sector are now skilled and are accepted by employers”. Q03, a technical teacher from a technical institution under the Science and Allied Technologies (SAT) field, posited that “almost all stakeholders of TVET are now happy with CBET graduates as CBET has assured human capital development with required skills and competence”. Q04, a technical teacher from a technical institution under SAT field, also stated that “CBET has enabled trainees to build their confidence due to acquired competences”; which Q02, technical teacher, affirmed that the competences gained have made the graduates more skilled and “has opened more chances of employment for them, including self-employment”.

Acceptability of CBET by stakeholders

Responding to the question on the opinions of other stakeholders about CBET practices in the country, R04, a pioneer of CBET in the country, affirmed that some stakeholders he had opportunity to interact with “praised this system very much, and they admire it”. He cited the Prime Minister of Tanzania “who admired CBET and that it is an excellent assignment done by the Council [NACTE]”. He asserted that the Prime Minister “urged that the Tanzania Commission for

Universities should adopt something like that; and if they did, then the delivery of even University education would also improve significantly”.

R05, an officer representing the policy makers (MoEVT), posited that “willingness of the Government to ensure that CBET is introduced in our TVET system” signified its acceptability. He stated that “availability of students who are motivated by CBET to learn because of assured employability after acquiring requisite competences” upon graduation makes CBET acceptable to stakeholders. R06, an officer also representing the state (MoHSW), commented that the “CBET curriculum is so robust now addressing many gaps which were in the traditional knowledge-based curriculum”. R09, an officer representing professional association (TANNA), affirmed that “the modular approach advocated by CBET renders its acceptability as it is very specific and allows no any kind of repetition from one level to another”. Q27, a technical teacher from a provider institution under health and allied sciences (HAS) field, stated that “CBET’s emphasis on learning by doing gives learners opportunity to master skills relevant to their work” after graduation.

Flexibility advocated by CBET

Responding to the question about the strengths of CBET R04, a pioneer, posited that “the most important thing is such that it is responsive to market demand; and also dynamic in the sense that if one is serious and is making follow-up, then should be able to modifying it, revising it faced with the current situation”. Similar views were also aired by Q01, a technical teacher from a technical institution under the Science and Allied Technologies (SAT) field, who affirmed that the “CBET system is flexible in terms of enrolment and exit where students could be enrolled any time and could exit every year”. He stated that the modular approach adopted under CBET “permits that a particular programme of study could be dropped whenever labour market no longer requires it; or a particular programme of study could be launched whenever labour market requires that particular programme”. He observed that this kind of “flexibility was not possible” under the traditional KBET system. Q15, a technical teacher from a technical institution under the health and allied sciences (HAS) field, made a similar observation, “the flexibility of CBET whereby no module is repeated” once

studied, assessed and passed “encourages both learners to participate in the study and sponsors to support the learners” as such an arrangement “permits exit at any time and coming in again to complete remaining modules”. Q19, a technical teacher from HAS field, also confirmed this by saying that CBET “limits unnecessary repetitions of learning content which was a phenomenon under the traditional knowledge-based system”.

Conceptualisation of external and internal factors relationship at work

Under this section I present a discussion and analysis of stakeholders’ responses regarding the way CBET demands were translated and implemented together with pertinent local CBET operational implications in Tanzania. The presentation reveals the dynamic interaction of external and internal factors to bring about equilibrium. I borrow the term ‘equilibrium’ from Finegold and Soskice “to connote a self-reinforcing network of societal and state institutions which interact to stifle the demand for improvements in skill levels” (1988: 22); and also to suggest the way we might conceptualise the relationship between these external and internal factors. However, as shown below, “this set of political-economic institutions” faces diverse constraints which challenge the improvement of productivity and skill despite CBET initiatives (ibid). Thus, the conceptualisation treats the relationship as a form of static equilibrium that ‘locks’ the concept of competence in the Tanzanian context in an unhelpful way as was exemplified by the findings from mining engineering and nursing case studies.

TVET policy and regulatory framework

Analysis of the narratives by stakeholders reveals that since 1996 when the Technical Education and Training (TET) policy was formulated stipulating that Tanzania TVET should be competence-based many reforms were initiated in the country. The views indicate that the reforms were necessary in order to address the challenges which were observed before and after the introduction of CBET in the country. Among the substantial reforms was the establishment of TVET regulatory frameworks and structures to create an effective environment for CBET development and implementation. Document analysis has revealed that the country sought expertise locally, regionally and internationally from

development partners to assist in its efforts to establish TVET regulatory frameworks and structures.

The TET policy also mandated the establishment of NACTE to “manage and coordinate all matters concerning technical education and training” (URT, 1996a: 12). The process of establishing NACTE involved carrying out studies to advise the Government on the way NACTE should operate and the resources necessary for its implementation. One of the studies in this endeavour is a study conducted by Leeds Metropolitan University from the United Kingdom funded by the European Union under the 7th European Development Fund (URT, 1996b). The study revealed that “tertiary (i.e. post school) education in Tanzania [had] developed in an *ad hoc* fashion” and thus “there has been an uncoordinated expansion in the number of tertiary institutions and courses of education and training” (ibid: 11). The study therefore provided “advice on the scope, powers, structure and operation of the Council” (ibid: 11). The proposal was tabled before the Ministry responsible for tertiary education, extensively discussed by key stakeholders and later approved by the Cabinet to establish NACTE.

The Act which established NACTE legally mandated it to build an efficient National Technical Qualifications System to ensure that products from technical institutions are of high quality and respond to the changing needs of the country as well as technological innovations in the world (URT, 1997). The study by the Leeds Metropolitan University (URT, 1996b) was followed by another study on Education and Training Systems conducted by Edward Brittain of B&M Associates in the United Kingdom through a “consultancy funded by the European Union under the 7th European Development Fund” (Brittain, 1997: 1). The studies produced a situational analysis report on the technical education and training in the country which mirrored some of the earlier findings through studies conducted by the Eastern and Southern African Universities Research Programme (ESAURP, 1993; 1994) which spelt out that the Tanzanian technical education and training system had the following six major problems that needed intervention:

- a) Lack of coordination of tertiary technical education and training;

- b) Lack of uniformity in standards and consistent pattern of awards;
- c) Lack of a nationally recognised and transferrable set of qualifications;
- d) Duplications and/or under-utilisation of resources;
- e) Need to give tertiary institutions greater autonomy; and
- f) Lack of a standard pattern of registration and accreditation of technical institutions.

Some of the major interventions which were proposed and later accepted by the Government were to establish a TVET qualifications framework (Table 6.1), and institute systems of quality control and quality assurance in technical institutions. The interventions were reforms that aimed at making TVET more responsive to industry requirements which saw more involvement of the industry, professionals and other stakeholders in the development of competence standards than had been previously experienced.

The involvement of stakeholders other than those principally charged with education and training was intended to ensure that “knowledge [is] not only to be judged on scientific grounds, but that practical criteria is also important” (NCHE, 1996; Weber, 2011: 5) in order to increase the responsiveness of the TVET system to labour market demands. The involvement and inclusion of “several actors from outside the academy” (Weber, 2011: 5) was intended to counterbalance the academics’ monopoly in education and training, but without undermining their role in the overall TVET business. The interventions also helped to increase the number of technical programmes and TVET student numbers to address skill challenges of the workforce.

Table 6. 1 TVET qualifications systems

S/N	Qualification Level	Qualification Award	Competence Level Descriptors
1.	NVA Level 1	Certificate of Competence I	The holder of the qualification will be able to <i>apply “basic vocational skills and knowledge”</i> .
2.	NVA Level 2	Certificate of Competence II	The holder of the qualification will be able to apply <i>“intermediate vocational skills and knowledge”</i> .
3.	NVA Level 3	Certificate of Competence III	The holder of the qualification will be able to apply <i>“advanced vocational skills and knowledge”</i> .

4.	NTA Level 4	Basic Technician Certificate	The holder of the qualification will be able to <i>apply skills and knowledge at routine level.</i>
5.	NTA Level 5	Technician Certificate	The holder of the qualification will be able to <i>apply skills and knowledge in a range of activities, some of which are non-routine and be able to assume Operational responsibilities.</i>
6.	NTA Level 6	Ordinary Diploma	The holder of the qualification will be able to <i>apply skills and knowledge in a broad range of work activities, most of which are non routine.</i>
7.	NTA Level 7*	Higher Diploma	The holder of the qualification will be able to <i>apply knowledge, skills and understanding in a broad range of complex technical activities, a high degree of personal responsibility and some responsibility for work of others.</i>
8.	NTA Level 8	Bachelors Degree	The holder of the qualification will be able to <i>apply knowledge, skills and understanding in a wide and unpredictable variety of contexts with substantial personal responsibility, responsibility for the work of others and responsibility for the allocation of resources, policy, planning, execution and evaluation.</i>
9.	NTA Level 9	Masters Degree	The holder of the qualification will be able to <i>display mastery of a complex and specialized area of knowledge and skills, employing knowledge and understanding to conduct research or advanced technical or professional activity, able to work autonomously and in complex and unpredictable situations.</i>
10.	NTA Level 10	Doctorate Degree	The holder of the qualification will be able to <i>apply knowledge and understanding and do advanced research resulting into significant and original contributions to a specialized field, demonstrate a command of methodological issues and engaging in critical dialogue with peers, able to work autonomously and in complex and unpredictable situations.</i>

* This qualification is part of the degree programme and is offered by technical institutions mandated to offer degree programmes.

The establishment of the TVET qualifications framework in Tanzania was intended to address major problems (b) and (c) evidenced by the studies explained above. Thus, its purpose was to “improve understanding of qualifications (degrees, certificates, or recognition of experiential-based learning) in terms of the information they convey to an employer about prospective workers’ competencies” (Allais *et al.*, 2009: v). The framework was also “intended to explain how [TVET] qualifications relate to each other and thus be combined to build pathways within and across occupations and education and

training sectors” (ibid). As narrated by the stakeholders the TVET qualifications framework fulfilled the intention and it managed to “improve the relevance, quality and flexibility” (ibid) of the technical and vocational education and training (TVET) system as evidenced by the stakeholders. The established range of National Technical Awards (NTA) is “competence-based and designed to testify that the holders possess the requisite knowledge, skills, understanding, and attitudes necessary to apply such competences flexibly in the relevant occupational sectors” (NACTE, 2004d: 1).

The establishment of TVET qualifications framework initiated movements towards setting qualifications standards, instituting systems of quality control and quality assurance in technical institutions, and the development and implementation of competence-based curricula (NACTE, 2003b; NACTE, 2010). According to NACTE documents a qualification standard is used to prescribe a qualification, and includes “statements on the *purpose(s) of qualification* and corresponding *principal learning outcomes* with associated *credit values* and *assessment criteria*” - the so called four NACTE qualifications standards (NACTE, 2004d: 1-3) covered in detail in Chapter 4. Both the purpose of qualification and corresponding principal learning outcomes are “pegged to the generic (cross-fields) competence descriptors at the respective level” (ibid: 3). Setting of NACTE qualifications standards, CBET curriculum development, registration of institutions (NACTE, 2001a) and the accreditation process which focuses on institutional matters such as academic management, procedures for quality control and quality assurance, staffing policies, and resources of equipment (NACTE, 2001b) were resource intensive undertakings which seriously constrained other initiatives like staff and infrastructure development.

Focus on framework building and not on capacity building

I corroborate with the perspectives of the stakeholders on the question of the trainers lacking suitable CBET teaching and learning capability. Most teachers in technical institutions are not trained teachers rather they teach following their successful completion of the degree programmes from various institutions either locally or abroad. Though the procedures for registration of “technical teachers” which were developed as per clause 24 (1) (e) of the NACTE Act (URT, 1997:

11) stipulate that “in order to qualify as a teacher one needs to have acquired instruction techniques and teaching methodology by attending a teacher training course in addition to the education and training in the relevant subject area” (NACTE, 2004f: 2), very few teachers fulfil this condition. Lack of pedagogical skills among many teachers in Tanzanian technical institutions, compounded with lack of adequate exposure to CBET delivery and assessment gravely impacts the competence development among the trainees. With TVET policy recognising that “there is inadequate provision for mandatory professional development for teachers and trainers in TVET institutions” (URT, 2012: 15), and the affirmation below is a clear testimony of the Government’s resolve to address this challenge, provided that the Government lives by its words:

there is a need to train and retrain the teachers and trainers in the TVET system so as to equip the workforce with appropriate skills and upgrade their qualifications in order to enhance competence, productivity and quality of the deliverables in TVET (URT, 2012: 15).

Following from the stakeholders’ narratives it is evident that “there was little or no debate with educators and clearly, in retrospect, little understanding either of the conceptual issues or the practical problems involved in the implementation” of a CBET approach (Gonczi, 1996: 7). Since the notion of CBET was new in the country then, “certainly the first attempts” of the employees of NACTE to explain what they meant by CBET to educators and even to other stakeholders was “mechanistic and relied heavily on their understanding of the approach” as learnt through the process of policy borrowing (ibid: 8). And indeed the situation has not changed much as the understanding of CBET by stakeholders is not deep simply because those who know only the basics are the ones training the novices. Consequently, due to the weak research culture among the Tanzanian education system, including the regulatory bodies like NACTE, the challenges of clear understanding of CBET will persist unless concerted efforts are put in place. What is evident is that the focus on framework building initiatives has “obscured the importance and significance of other, arguably equally meritorious, but less well-resourced and low-profile, initiatives in teaching and learning” (Saunders, 1990: 224). Consequently the meagre resources available were directed into the

development of qualifications framework and TVET regulatory frameworks and structures “at the expense of more important priorities such as building or improving educational institutions, upgrading teachers and lecturers, and so on” (Allais, 2010: 11).

Some stakeholders observed that there was/is *inadequate involvement of stakeholders in CBET development and implementation*. I agree with the observation, though few efforts were deliberately made to involve stakeholders in the preliminary stages of CBET development. However, even those who were heavily involved, I argue, could not embark on serious CBET debates to unravel the unknown challenges of its development and implementation in the Tanzania context, given the prevailing local economic and cultural environment. Had there been critical minds, especially among the academic elites from local Universities and higher learning institutions, professions, associations, unions, and so on, informed by research, the understanding of CBET within the country as well as its effective development and implementation would have been more successful. Thus, the whole CBET development and implementation affair was mainly left to NACTE employees with no critics from the stakeholders, especially from the practitioners, professional and other academicians in the country. This placed the Tanzanian CBET on the ‘foot of clay’ as any snag in its development would continue unchallenged and it would eventually become and remain ineffective.

With *absence of adequate and serious CBET implementation at lower education levels in the country*, it becomes more problematic because students who are entrants to the CBET system from the inefficient CBET system at the lower levels find themselves in a different learning environment thus causing confusion. What is needed in Tanzania in order to guarantee adequate involvement of stakeholders in CBET development and implementation is for the CBET system to be “openly debated in instrumental terms” by all stakeholders as happened in Australia and in other countries (Gonczi, 1996: 10; Allais, 2010). The debates could facilitate judging the extent to which the CBET system is “succeeding in advancing “national” goals related to economic restructuring and competitiveness” (Gonczi, 1996: 10) taking into consideration the prevailing local historical, political and cultural situation. This, in my view, would eventually

substantiate the need to reaffirm the Government's commitment to the CBET undertaking in the country.

Weak networking

CBET “uses industry standards as the basis for the curriculum, and “potentially takes the monopoly of the curriculum away from education authorities” (Gonczi, 1996: 10). The CBET approach requires the establishing of networks between provider institutions and industry in terms of agreements about how and where to “develop the skills [and competences] which relate to these standards” (ibid). Involvement of industry in CBET implementation cannot be overemphasized. It could function as a platform for practice-based learning in which both trainees and trainers benefit. The involvement could facilitate the transfer of theory into the workplace through situated and experiential learning; and thus encourage and promote learning in and about practice through authentic experience as part of a community of practice. However, the narratives have revealed that involvement of industry in CBET implementation in Tanzania is still a challenge.

All stakeholders stressed the need to *involve industry in the implementation of CBET* in the country. Though some views indicated the presence of stakeholders' involvement, I support those doubting the level of involvement affirming that it is very weak; thus affecting CBET implementation. In Tanzania, technical institutions are available in almost every region, with some regions having more than one technical institution falling under different subject areas. Some regions have many industries, business enterprises and activities which, if properly utilised by provider institutions via closer working relationships, would provide hands-on experiences to both trainers and trainees.

Had there been a closer working relationship, first among technical institutions themselves, then with the industry within a particular region, strong networks could be established that could help to identify the skill gaps within the region. Working jointly would solve problems immediate in the region, before the national ones, and thus create a strong synergy locally along with possibilities for the employability of graduates. Lack of a strong network between industry and provider institutions deprives the technical institutions of benefits which might

have accrued from “sharing experiences, acquiring new technologies and skills” currently facing most provider institutions due to an inadequate financial base (URT, 2012: 18). Apart from a lack of networking nationally, there is also weak cooperation between regional and international stakeholders (ibid) which would have assisted provider institutions to adequately catch up with technological development and technology transfer.

The narratives also affirmed the importance of the provider institutions collaborating with the industry in research activities, and industry providing placement for students during practical training. I concur with this assertion as practice of research conduct in the country is very weak, more so when it involves partnering with the industry to address the challenges facing the business and community in general. I suggest that there is a need to establish an explicit framework that adequately involves educators, students, communities, employers and the private sector in order to properly engage them in the “education and training policy reform process” (ATE, 2008: 10).

On the importance of field attachment for students and staff, I concur with the given views that field attachment would expose students and staff to new technology acquired by the industry, which in most cases provider institutions could not afford due to the lack of a strong financial base. The Government has to use the currently developed Public-Private Partnership (PPP) policy to institute a requirement to use the hands-on people in the industry to deliver some of the programmes in workshops and to practise as part-time teachers to deliver some programmes in the training institutions. This arrangement, apart from contributing to building a strong CBET base in the country, would effectively tap the experiences of the private sector in bringing about the country’s “socio-economic development through investments” (URT, 2009: ii). The networks would provide “an environment focused on ‘practical learning’ (‘learning by doing’), access to workplaces and involvement of employers”; the outcome of which could contribute to building “‘creativity’ and ‘enterprise’” in learners, teachers and trainers and the industry (Fuller and Unwin, 2011: 195). Properly managed and implemented public-private partnerships could contribute to “effectively address constraints of financing, management and maintenance of

public goods and services” (ibid: ii). The same could additionally “enable the Government to fulfil its responsibilities in efficient delivery of socio-economic goods and services by ensuring efficiency, effectiveness, accountability, quality and outreach of services” (ibid: ii).

Though some stakeholders were pessimistic about the idea of legislation to encourage industry-provider networks, and therefore favouring voluntary collaboration, I argue in favour of those who supported legislation through involving them in the formulation of the legislation. The arrangement could work to either stimulate networking between industry and provider institutions or partnerships between industry and CBET practitioners. It could facilitate joint forces to address CBET challenges within particular ‘local ecologies’ such as sharing resources and actively interacting to accomplish common goals.

Role of CBET in promoting social cohesion and normative behaviour

Historically, Tanzania endorses the tenets of equality and unity among citizens. The country has always been struggling to provide education and training to the entire population in order to enable them to earn a decent living and lead comfortable lives. Apart from various initiatives and reforms directed towards the provision of education and training, the introduction of CBET in the country targets the development of a skilled society for socio-economic development. It is the expectation of the Government that the TVET sector reaches out to accommodate the bigger part of the population and contributes to the distribution of the requisite skills and competences that are beneficial to society. The Government believes that diversified distribution of education and training that seeks to develop a skilled population would contribute to building social cohesion and “in shaping life chances and social outcomes” (Green, 2011: 228). The country’s education and training system under CBET is expected to enhance “skills formation for economic competitiveness” and to “promote national cultures and state identities” (ibid: 228).

However, political platitudes and wishes alone cannot develop such skills and social cohesion. The perception of all stakeholders is that the building of social cohesion and the normative behaviour through the CBET curriculum faces grave

challenges. I concur with given views, and declare that the wider attributes element in the curriculum which is intended to address attitudes and social skills is not well articulated in most modules. Though there is a mention in the curricula on the importance of attitudes, no strategies are put in place to develop them (NACTE, 2008a; NACTE, 2008b). It is thus left to the ingenuity of each individual trainer to improvise. With most technical teachers being non-educationist, it compounds the challenge. Teacher education is fundamental in order to provide teachers with the solid and current knowledge and essential skills to satisfy the needs of the learners (Mosha, 2012). I corroborate Mosha's declaration that "teachers need to have the skills to create and maintain a socially just, equitable and sustainable world" (ibid: 42).

Issues of governance

The findings indicate that the building of social cohesion under CBET system faces copious challenges. The major challenge, apart from teachers lacking pedagogical skills to address the attitudes aspect in learners, is the lack of good governance. I concur with the perception of stakeholders that good governance is central in addressing the erosion of ethics and poor attitudes among the workforce and society generally. Thus, it is imperative for the Government to create conducive and supportive environment in the country for social cohesion to flourish. Observations were made about unequal distribution of wealth in the country characterised by the political tycoons and other members of the public in strategic positions indulging in embezzlement of public funds, fraud, corruption, and other unfair deals which inculcate hatred and mistrust among the population, thus challenging social cohesion. For attitudes to be properly instituted there is a need for partnership working between provider institutions, the Government and the general public. The Government, in particular, should strive to be a role model through good governance, and ought to understand that "maintaining social cohesion requires not only social inclusion through employment but also reasonable levels of income equality" (Green, 2006: 323-324).

Summary of reflection on stakeholders' perspectives: competence modernising and opening influence?

Narratives presented under respective themes indicate an increased interest countrywide in the relationship between technical education and the workplace after the introduction of CBET in the country. The narratives indicate that in paving the way for the introduction of CBET in the country substantial reforms of the TVET system were undertaken involving significant changes. These reforms included instituting TVET regulatory frameworks and structures to create effective environments for CBET; attempts to make TVET more responsive to industry requirements; the involvement of the industry, professionals and other stakeholders to develop the competence standards and CBET curricula; establishment of the NTQF to facilitate student progression; and the endeavour to increase the number of technical programmes and TVET student to address skill shortages in the workplaces. Likewise, the established NTQF and CBET have opened up previously non-existent progression to higher levels of education and training to most VET and TET graduates; thus “offering qualifications to people who would not otherwise have participated in education and training beyond” former VET and TET levels (Cedefop, 2009: 19).

Such reforms which are led by the Government in partnership with other key stakeholders, some of whom are non-education professionals, are seen by many stakeholders as a modernising and opening influence. The narratives on CBET as a modernising and opening influence are led by the expectation of CBET to improve workplace skills; the acceptability of CBET by stakeholders; and the flexibility advocated by CBET testified by the adopted modular approach that was not possible under the traditional knowledge-based education and training (KBET) system. Most stakeholders narrate that CBET is well received in the country; and if it is well delivered and assessed could guarantee production of competent graduates. The net effect would thus be improving workplace skills of the country's workforce with expectation for increased productivity in industry and other workplaces. Narratives indicate that various changes in terms of improvement to the TVET system that came along with CBET introduction have revolutionised the workplace competence landscape; and most graduates are now accepted by employers. There is a need, therefore, to ensure that the

anticipated benefits enumerated above are “put to the test, evaluated, monitored and researched” for continued CBET support and sustainability (Cedefop, 2009: 24).

For Tanzania to benefit from adopted economic liberalisation policies there is a need to provide and guarantee the supply of skilled labour to both public and private sector employers in the country. Realisation of this calls for the Government’s support in a number of ways including: increased funding of TVET, good governance, awareness promotion and partnerships among various stakeholders in the competence development function. Increased involvement of stakeholders in CBET practices would cement and further improve the value employers attach to the “conceptual foundation, knowledge and intellectual approach to tasks” (Griesel and Parker, 2009: 20) exhibited by graduate technicians in workplaces. Involvement of diverse stakeholders would help to jointly lay down strategies to “cover a multitude of issues from life skills to soft skills, from instilling a work ethic to personal initiative” (ibid: 20) in order to address the concerns about attitude and values demanded in workplaces and Tanzanian society more generally.

The importance of proficiency in English, communication and ICT skills as suggested need much emphasis preferably through the provision of an adequate foundation in these competences in the schooling system from the lower levels upwards. This again calls for the Government’s support in terms of clear policies to encourage the development of such competences within the schooling system right from the primary education level. The same also calls for the support to develop teachers and trainers’ competences in “curriculum, pedagogic and assessment practices” (Griesel and Parker, 2009: 19) and to encourage them to team up with industry to improve both work-based learning and provider institutions’ learning; thus the boundary between provider institutions and industry becoming “more porous” (Griesel and Parker, 2009: 20).

Part IV: Summary of emerging issues

The narratives of the stakeholders who took part in this study reveal that their understanding on the concept of competence and how it is applied in the development of CBET in the country is informed by many factors presented in the previous sections and summarised in Fig.6.1.

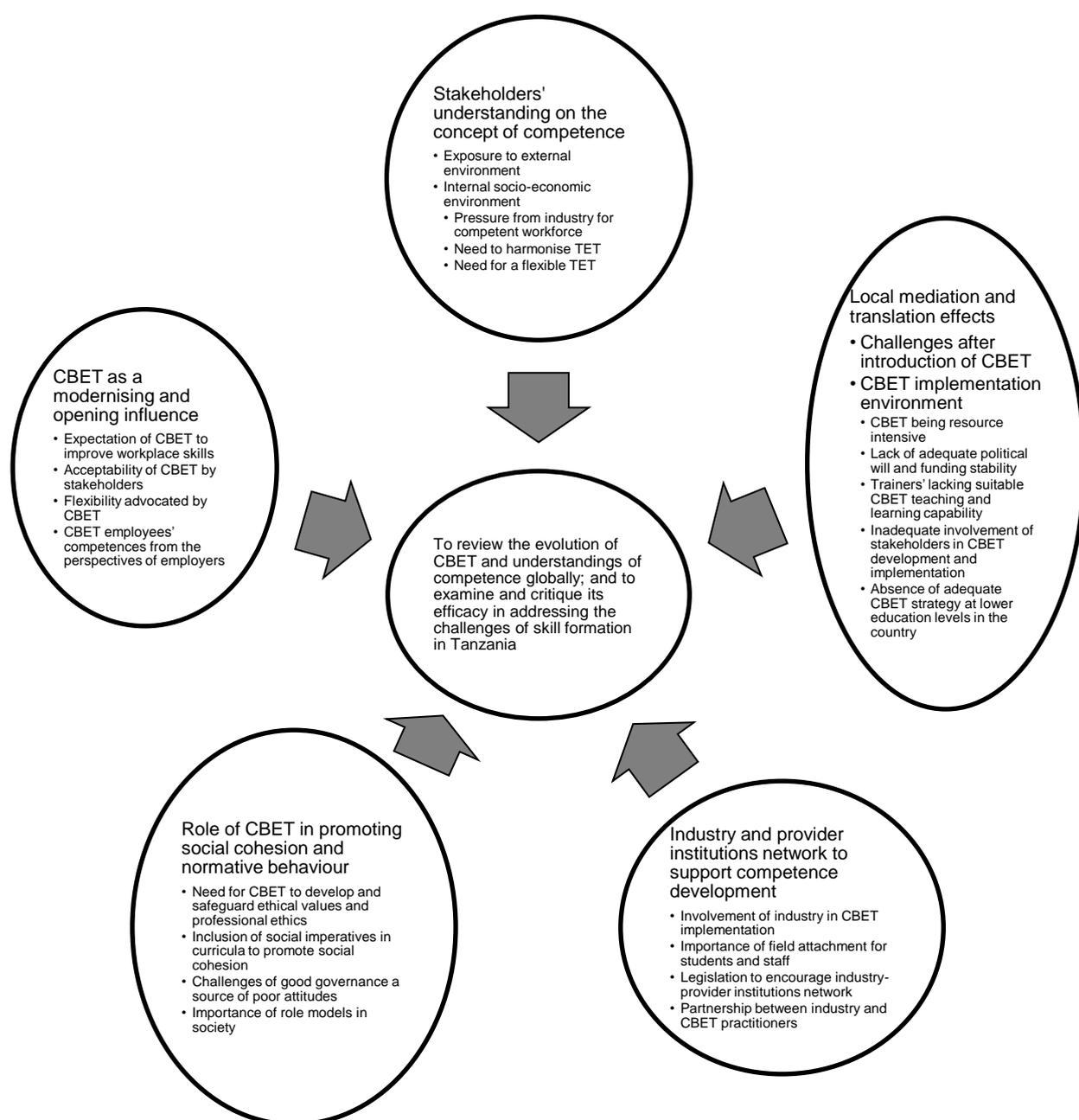


Figure 6. 1 Stakeholders' perspectives addressing study objectives

The narratives reveal the main study findings shown in Table 6.2. The discussion and analysis of study findings have shed light on the version of competence understood by the stakeholders, understanding local CBET mediation and translation effects, and they way stakeholders regard CBET as a modernising and opening influence as summarised below.

Table 6. 2 Main study findings

Main study findings		
Version of competence understood by the stakeholders	Local mediation and translation effects	Conditions that hold or 'lock' the concept of competence in Tanzania
<ul style="list-style-type: none"> • Informed by a social system (<i>historically, politically, socially and economically rooted in the Tanzanian context</i>) • Ecologically nested inside the social model (<i>signals strong social dimension</i>) • Draws from the deeply rooted processes of transition from colonialism to independence • Suggests a moral Tanzanian as a competent person. 	<ul style="list-style-type: none"> • Mechanical implementation of competence with more emphasis on technical aspects • Informed by policy borrowing <ul style="list-style-type: none"> ✓ More emphasis on design and less on strategy (rendering it a theoretical concept in Tanzania) • Weak internal translation due to capacity issues locally. 	<ul style="list-style-type: none"> • Inadequate involvement of national and international stakeholders (absence of plausible dialogue) • Lack of teachers' and trainers' CBET training • Inadequate funding • Poor or lack of research and development capacity • Lack of Government will • Deteriorating social values.

Discussion and analysis of study findings have revealed that the version of competence understood by the stakeholders is historically, politically, socially and economically informed which all together result in a social dimension understanding of competence in the country. It was revealed that historically the indigenous societies in Tanzania practiced the pattern of life strongly upholding social traditions and cultures. Education within this style of communal living prepared “young people to live in and to serve the society, and to transmit the knowledge, skills and values and attitudes of the society” (Nyerere, 1967a: 2).

This was further perpetuated by Tanzania's adopted philosophy of education for self-reliance soon after independence with political orientation favouring egalitarian doctrines. This orientation became deep-rooted in 1967 after the Arusha Declaration in which the education policy advocated the inculcation of certain basic social values including a sense of commitment to the total community, co-operative endeavour, concepts of equality and the responsibility to serve (Nyerere, 1967b). Economically, Tanzania's experience which traversed capitalist, socialist, and later the free interplay of the market forces of supply and demand (Ngowi, 2009; Mosha, 2012) had tremendous influence on the version of competence understood by the stakeholders. This understanding was further informed and influenced by the policy borrowing which introduced in Tanzania a mechanical interpretation of the concept of competence/CBET (Halpin and Troyna, 1995) characterised by "an excessive emphasis on the technical aspects" (Grainger *et al.*, 2012: 15). This had a grave bearing in the overall CBET design strategy since it failed to recognise that CBET introduction ought to have "social and political as well as technical dimensions" (Raffe, 2009: 34). Consequently, the ensuing CBET lacked the breadth of competence addressing both hard skills and soft skills.

The discussion and analysis of study findings also revealed the way stakeholders perceived and translated both external and internal factors at work. On the external dimension discussion and analysis were made on factors which brought about rapid developments in technology and communication calling for the creation of competitive business, markets and production systems (Rivera, 2004; Mason, 1999). The discussion and analysis of stakeholders' perception and translation of internal factors at work disclosed that they were influenced by the wider historical and societal factors since independence and the role of mediating bodies such as Government, trade unions, regulatory bodies, labour markets, employers and technological change, and educationalists that exhibited very weak systematic internal translation potential due to lack of capacity.

Conceptualisation of the relationship between these external and internal factors revealed the country's efforts to bring about substantial reforms to address the challenges observed before and after the introduction of CBET in the country.

These included instituting TVET policy and regulatory frameworks that shifted the focus on framework building and not on capacity building. Consequently the meagre resources available were directed to the development of frameworks and structures “at the expense of more important priorities such as building or improving educational institutions, upgrading teachers and lecturers, and so on” (Allais, 2010: 11). Again, weak networking between industry and provider institutions was conceptualised as a flaw in CBET development and implementation processes in the country, though the Government has lately instituted the Public-Private Partnerships policy to forge strong linkage between industry and provider institutions (URT, 2009). There was an outcry about the issues of governance and lack of good governance in the country. Suggestions were proposed on the importance of good governance for CBET to enhance “skills formation for economic competitiveness” and to “promote national cultures and state identities” (Allais, 2010: 228), as well as social cohesion and normative behaviour for social inclusion and “reasonable levels of income equality” (Green, 2006: 323-324).

The discussion and analysis of study findings suggested that all stakeholders regard CBET as a modernising and opening influence. Some of developments that emerged after the introduction of CBET in Tanzania seen by stakeholders as modernising and opening influence include:

- a) The introduction of CBET in the country bringing back the immensely lost respect and credibility of TVET in the eyes of the employers and the public generally;
- b) Rise in enrolment in vocational and technical programmes;
- c) Relevance of CBET to workplace requirements;
- d) Launching of various reforms such as development of TVET policy, establishments of national technical and vocational qualifications framework (NTVQF), establishment of NACTE, and instituting systems of quality control and quality assurance involving registration of technical institutions and accreditation of programmes;
- e) Opening up the previously locked progression possibilities to higher levels of schooling for most VET and TET graduates; and

f) Involvement of stakeholders in the TVET and CBET debates.

Similar views on modernising and opening influence were aired by the employers of mining engineering and nursing technicians in the country. The employers indicated that they mostly value skills and knowledge that are technically field-specific as well as interpersonal skills. They affirmed that CBET has significantly improved the technical competence of technicians; however they had reservations with the competences related to soft skills. Mining engineering technician employers for example cited that interpersonal skills such as teamwork, attitude, ability to learn, oral communication, confidence, critical thinking, responsibility and use of technology in terms of software mostly used in mechanised mining need more improvements.

On the other hand, despite being happy with the curriculum structure, employers of nursing technicians revealed that employees are weak in most of the core competences valued in the workplaces; critical challenges being on oral communication, critical thinking, decision making, teamwork, cooperation, and the use of ICT. They doubted the capacity of the teachers and trainers to adequately implement the CBET curriculum within the shortened duration of the programme, saying this could be a cause of this weakness. However, narratives of stakeholders from the policy making organs within the health and allied sciences sector attributed the weakness to CBET being new in the country and to most personnel within the health sector. They affirmed that the currently intensified Government's support for nursing training providers in terms of more skill labs, practicum training for both teachers and students, and other infrastructural development are likely to improve the situation. I concur with the employers' suggestions of strengthening the network between provider institutions, workplaces and diverse stakeholders; improving funding and provision of teaching and learning infrastructure; and supporting teachers' and trainers' continuing professional development in CBET development and implementation in order to "improve the competences that are most related to work tasks" (Hernández-March *et al.*, 2009: 13). Realisation of this calls for "scrutiny of work-based and work-placed learning and [provider] institution-based learning to understand better the forms of knowing and learning that are most

appropriate and the curriculum, pedagogic and assessment practices that are most effective on both sides of the interface” (Griesel and Parker, 2009: 25).

Chapter 6 has provided a discussion on the way the dynamic interaction of external and internal factors were mediated and translated in efforts to improve productivity and skill in the country through effective CBET practices. The discussion and analysis have shown that the factors are in a form of static equilibrium that ‘locks’ or ‘suppresses’ the concept of competence in the Tanzanian context. Chapter 7 provides conclusion of the study by highlighting the conditions that ‘lock’ the concept of competence in the Tanzanian context and then provides an explanation on how to address them to ‘unlock’ the concept of competence.

CHAPTER 7: CONCLUSION

Overview and synthesis

This final chapter provides an overview of the study, highlighting the main study findings, draws conclusions in support of a new way of looking at the concept of competence in Tanzania and suggests a number of policy issues arising from the research. The evidence provided in the thesis is based on five related dimensions, which have been triangulated in order to clarify the case for the authority of the data and the categorical conclusions drawn from the research.

First, the findings of this study have drawn on a rich literature focused on the historical and systemic development of the concept of competence. This gave rise to the concept of different typologies of competence having emerged over time and in different national contexts.

Second, these typologies were illuminated by pilot interviews with the ‘pioneers’ that brought the concept of competence to Tanzania, which suggested a particular form of ‘policy borrowing’ and adaptation.

Third, data was collected through a wider set interviews with a variety of stakeholders involved in TVET in Tanzania that explored further how the concept of competence was being ‘translated’ in the Tanzanian context.

Fourth, general ideas emerging from these explorations were further illuminated by interviews with relevant stakeholders in two major case-study areas of mining and nursing. These suggested a more common than sector-based message, with a focus on what I have termed the ‘social-technical’ dimension of competence.

Finally, the findings from the research and the issues of developing a competence-based approach to TVET in a Sub-Saharan African (SSA) context was further explored by a final literature review of a range of neighbouring countries.

These five dimensions of the research and the conclusions about the problems of a technical and restrictive concept of competence in Tanzania and the potential of a social-technical approach also helped to inform an argument for particular 'use strategy' that is outlined at the end of this final chapter.

The chapter is organised into seven sections. The first provides an overview of the research, reiterating the purpose and the origins of this investigation through restating the research aims, objectives, research questions, the rationale, and the boundaries that demarcated the study. It also demonstrates how the original research questions and aims set out in Chapter 1 have been addressed. The second section summarises the main study findings including the weaknesses of the technician model and conditions that 'lock' the concept of competence in Tanzania. This section also covers the emergence of a possible new model. This is followed by section three that focuses on reforming the state and institutions to create the conditions to 'unlock' the concept of competence. The section also covers policy suggestions and implications. Section four reviews reform of CBET in Sub-Saharan Africa as a final reflection to crosscheck whether other African countries have suffered some of these weaknesses in order to confirm the national specificity of the Tanzanian concept of competence. This is followed by section five which draws out the central argument of the thesis. Section six addresses the thesis theoretical contribution. The seventh and final section highlights new areas for further research, and suggests 'use strategy' of the research findings.

The purpose and focus of this study was to investigate the emerging Tanzanian concept of competence and the conditions for its successful implementation and future development. In order to address this, the central aim was to explore competence-based education and training (CBET) manifestations and implications globally and their influences on the Tanzanian CBET and the concept of competence developed in this national context. Two research objectives were then, formulated: to review the evolution of CBET and understandings of competence globally; to explore how these had been applied in the Tanzanian context to examine and critique its efficacy in addressing the challenges of skill formation in Tanzania. The study focus was deemed important

because of the major trend in many countries globally to study and implement CBET for vocational and technical education and training systems due to its perceived potential to produce competent graduates required by the labour market for economic and social development (Bowden, 1997; Mulder, 2007). While these debates on CBET were happening in other countries, in Tanzania there were shaping factors resulting from the economic and social pressures in the late 1980s and early 1990s. These pressures led to stagnation of the economy, which resulted in complaints from the labour market over the competence of graduates from the education and training system in the country. The study focus was thus targeted to also examine the kind of pressures which were building and the translation that was taking place, and the way they shaped Tanzania's road to the implementation of competence in technical education and training and the world of work.

Competence as a technical concept

The concept of competence was introduced in technical education and training institutions in Tanzania in early 2000 due to a combination of global and national influences. However, there has been no research on the Tanzanian concept of competence, its translation and the ways in which a range of factors interact to affect skill levels. Thus, information on the relevance of the Tanzanian CBET for productivity and skill formation and on the conditions for its successful implementation and future development was missing. The rationale of this research, therefore, was to explore the relationship between the external and internal factors in shaping the shift from the traditional knowledge-based education and training (KBET) to CBET. The rationale was informed by the purpose of introducing CBET in Tanzania, in order that the education and training system becomes more capable of producing 'hands-on graduates'. The purpose, notwithstanding, connotes a technical understanding of competence as a result of the way the 'pioneers' borrowed it through an Anglo-phone behaviourist message. This act of borrowing was adapted by the way it was interpreted as a broader concept on paper, but not implemented in a broader way due to capacity issues and weak state structures in the country. The adopted model remained largely technical.

However, the background international literature research on the notion of competence and CBET covered in Chapter 2 revealed that competence has a history, it is international in character and it takes different forms depending on the various national contexts. The review also revealed that there were historical and democratic influences informing competence development, but my interest was with democratic influences that informed competence development in the national cases I reviewed. The background international literatures led me to inquire as to how Tanzania had adopted a particular version given its position in historical, technological, social, and economic development. I also realised that there were different possibilities for the concept of competence in a country with a particular socialist history, but that is now developing rapidly in the context of neo-liberalism and globalisation.

Competence as a historical and situated concept

Through the literature review I developed a provisional theoretical framework that illustrates how the globalised nature of competence has spread out from the Anglo-phone countries and the varieties of competence that have emerged over the past 30 years. To begin to explain these differences I distinguished four competence approaches – *behaviourist*, *generic*, *integrated (cognitive)*, and *social-constructive*. These were used to map on my theoretical framework the global competence approaches and CBET trajectories, while at the same time suggesting that the Anglo-Saxon behaviourist model has remained dominant internationally.

Researching the Tanzanian experience

Reflection on international developments then turned my attention to Tanzania and where its concept of competence might lie within this framework. This led me to pose several fundamental questions:

1. What was the origin of the concept of competence/CBET that was brought to Tanzania from abroad?
2. How was this version of competence translated within Tanzania and by whom?

3. What were the factors that were informing either a view or views of competence at a particular time within Tanzania?

From these three main questions, I developed the five research questions (RQs):

- a) What is the dominant or prevailing 'model' of competence in Tanzania; how did it emerge; what are its assumptions and how does it relate to international debates on competence?
- b) How did the model aim to improve productivity and skill and how is it performing against its existing assumptions?
- c) What are the views of the stakeholders that mediate this policy approach within Tanzania; what debates are taking place around this model and where is it heading (trajectory)?
- d) What is the relationship between the dominant model of competence and the wider governance formation (e.g. regulatory institutions, private sectors networks, provider institutions and the Tanzanian state more generally)?
- e) What evidence that another model of competence could emerge in Tanzania; what are its main features and how might it perform in relation to future need?

To address these questions I began to look at the organisations for sites within the economy where particular 'translations' have taken place. This informed my research approach and the methods used to collect the views from the stakeholders. Using qualitative methods I interviewed the 'CBET pioneers' who brought the concept of competence to Tanzania from international meetings. I also decided to undertake two case-studies in areas that might be more open to international influence (mining) or more influenced by internal factors (nursing). I further interviewed a variety of other stakeholders in national organisations and at the local level and conducted document analysis.

Through interviews with my study respondents I was able to obtain different accounts. What I began to find when I put together the accounts of the pioneers, policy makers, and other CBET implementers on the ground was that, despite the differences in the accounts, there was a profoundly common message. These

were reflections on the changing nature of Tanzanian society. Interviewees talked about the behaviour of workers and managers and their anxiety of what Tanzania might be becoming in relation to changes in its economy. In essence they were remarking about the tensions within society undergoing a process of economic liberalisation. In connection with this they all talked about need for different skills and attitudes. All this summed up to one message which came through loud and clear, that the concept of competence as the 'technical' is only one part of the picture. The respondents appeared to be suggesting another dimension - the social dimension of competence. While this points to the concept of competence as broad and multi-faceted, I did not abandon the concept of technical competence, but began to think of it in relation to a wider set of social considerations that reflect attitudes to work; a sense of responsibility and even the notion of moral actions.

Main study findings

Following this fieldwork and its initial interpretation, I returned to acknowledge the current economic and social development in Tanzania and the effects of liberalisation and neo-liberalism, which inform this dimension of competence. There are also particular moral concerns in a traditional society in relation to current technology with the influence of digitisation, the Web, and the exposure to internet which makes society, the Government, and especially parents anxious. This led me to think of the concept of competence in Tanzania as a **social-technical** phenomenon, which has an enormous implication not only for my thesis, but also for the way that I work in my organisation.

From the results of this study and the discussion and analysis of study findings conducted in the preceding chapter, I examine the practices that shaped the stakeholders understanding of the emerging Tanzanian concept of competence and what were perceived as the conditions for its successful implementation and future development. Three main conclusions are made as a result of the given views and backed-up by the background literatures and the developed theoretical model.

Importation of technicist model

RQ1 asked how the dominant model emerged and its relation to international debates on competence. In addressing this question I reviewed international trends/debates on competence and the role of the Tanzanian CBET 'pioneers'. The Tanzanian approach to competence draws heavily on policy borrowing, in which the experience gained from exposure to the external world in search of conventional CBET practices exposed the Tanzanian CBET pioneers and other officials who travelled abroad to the notion of a behaviourist approach. This proved to be the dominant model in Anglo-phone nations, including South Africa. Even as the concept of competence evolved over time as it moved outwards from the Anglo-phone countries, the behaviourist technicist notion of competence remained dominant, and indeed it is the one which was exported to Tanzania. I have argued that the importation of a technicist notion of competence has to be seen in the wider economic and political context. Since the mid-1990s what has been happening in Tanzania, mirrored the economic and social changes that were happening in the visited countries. It was possible for the CBET pioneers to borrow the behaviourist notion of competence in the way that they did, because these ideas were framed within the current economic and social environment in Tanzania, which made certain arguments more possible. Liberalisation of the economy placed greater powers in the hands of employers, leading the labour market to demand that graduates should become more hands-on, be more practical, overcome an excessively theoretical approach to TVET, and thus become more productive.

Weaknesses of the technicist model and the 'locking' of the concept of competence

In addressing part of RQ1 regarding the assumptions of the dominant or prevailing 'model' of competence in Tanzania, and RQ2 which asked how the model aimed to improve productivity and skill and its performance against its existing assumptions, I examined the way the concept of competence was adapted in the country. However, as the research revealed, the concept of competence, despite some adaptations, did not produce these outcomes. Instead, the research suggests that the technicist concept of competence suffered from fundamental weaknesses in the Tanzanian context. Although

documentation in Tanzania revealed a more adaptive concept of 'competence' (knowledge, skill and attitudes), in reality, the approach remained largely paper-based and did not significantly affect either technical education practice or behaviour in the workplace. Weak institutional structures and a lack of continuing professional development (CPD) for the teachers and trainers were reported to challenge the way CBET has been translated and mediated, as some teachers reported to be implementing it in their own way, and others resorting to the former knowledge-based education and training (KBET) way.

The findings confirmed that the development and implementation of CBET in the country placed more emphasis on design and less on strategy. At the policy making level, it is clear that much emphasis was and still is given to design and the technical aspects of developing a CBET curriculum at the expense of implementation processes and the way CBET could be effective in producing the anticipated positive development of competences in the Tanzanian workforce. As a result of emphasis on the design-sided approach, a number of issues remained unaddressed, which strategically locked the Tanzanian concept of competence, and thus rendering it ultimately a theoretical concept in Tanzania.

The metaphors of 'locked' and 'unlocked' are in this research used to represent a position of 'static equilibrium' (Finegold and Sockise, 1988). In analyzing problems of education and training the UK in the mid-1980s, they argued that the system was caught in a 'low skills equilibrium'. By the term 'locked' I am referring to a similar kind of stasis in which a restrictive concept of competence in Tanzania is currently locked by a series of factors that prevent its further development. It is possible to discern different dimensions of the locking syndrome – one of these is 'procedural' whereby, for example, policies are translated into procedures and rules that manifested in a 'paper-based' and bureaucratic approach that are passed down from national agencies to implementing institutions. The second dimension is 'pedagogical' in which, for example, these new paper-based requirements are translated by teaching staff according to their previous traditions of a knowledge-based TVET and in the context of a lack of equipment and resources that might encourage a more practical approach to learning. The third dimension concerns that of

'governance'. These are diverse and very critical and include the original acts of narrow policy borrowing; the subsequent lack of serious internal debate and weak translation; lack of resources and the lack of leadership capacity in the mediating structures of the state.

The process of 'unlocking' the concept of competence could be seen as producing conditions for the development of an 'expansive' version – what I have referred to as the social-technical model. Fuller and Unwin (2007) apply a continuum of restrictive/expansive to the development of apprenticeships in the UK. Also Gustavsson and Ekberg (2014), O'Leary (2013), Taylor and Watt-Malcolm (2007), and Howieson *et al.* (1997) applied restrictive/expansive approaches in the analysis of similar systems. Here I am using the expansive - restrictive continuum in a new way, to analyse approaches to competence development in Tanzania. This analysis enables me to suggest the conditions relevant to creating a more expansive approach. As Finegold and Soskice argued in their seminal work in 1988 and then Finegold in his work on building 'high skills eco-systems' (1999), it will be important to address several 'locking' factors simultaneously as part of a broad strategy for reform. This will involve reform to procedures and a more communicative approach between NACTE and the technical institutions for which it is responsible. It will also be important to build pedagogical activity on the ground as new examples of practice. This will involve using the idea of expansive learning which Engeström (2001: 139) developed and used to explain the kind of learning environment that engages learners in learning and facilitates to produce new patterns of activity in learning and work to achieve substantial changes at the organisational level. But these examples will not ultimately be able to flourish unless there are wider changes to support 'good governance' in Tanzania that improve the capacity of the key mediating personnel and state structures and it is here that much of the 'use strategy' will focus.

In order to address RQ3 which asked about the views of the stakeholders that mediate competence policy approach within Tanzania, the debates taking place around this model and its trajectory; and RQ4 which asked about the relationship between the dominant model of competence and the wider governance

formation, I examined the way CBET was implemented and the role of various actors in the country. The findings confirmed a mechanical implementation of competence in which more emphasis was given to hard skills and much less to soft skills. These findings shape my argument for the need for a much broader concept of competence. This need is confirmed by a particular permeating debate now country-wide regarding the social and technical dimensions of competence because of the apparent failure of the limitations of the behaviourist model, even in its adapted form and a new sense of social crisis coming out of liberalisation, and the changing economy, the corruption in society, bureaucracy, and a lack of responsiveness among the Tanzanian populace, which are really deep problems that are always seen and heard in the media. This situation challenges the effectiveness of CBET in bringing about the necessary changes in skills and competence development demanded by the labour market; which I translate to result in the conditions that 'lock' the concept of competence in the country. Thus, the technician concept of competence, which is locked by the prevailing situation, needs to be 'unlocked' to allow for the teaching and learning system under CBET to produce a competent graduate upholding a sense of social responsibility as well as the necessary technical skills to bring about the country's socio-economic development.

CBET development and implementation neglected "the analysis of how more successful [CBET] have emerged through an iterative process of implementation" (Grainger *et al.*, 2012: 15) which is realised through the process of policy learning. Because there was no regulation that "the introduction of [CBET] has social and political as well as technical dimensions", its development and implementation were not seen as dynamic processes, rather they were seen "as a simple matter of correct specification, design and installation" (Raffe, 2009: 34). The situation led to conditions that lock the concept of competence in the country, including:

- a) Inadequate involvement of national and international stakeholders which leads to the absence of a plausible dialogue on the best way to develop and implement CBET within the Tanzanian context;

- b) Lack of teachers and trainers training and retraining before and during implementation to provide them with the basic competences to develop and use appropriate learner-centred methods advocated under CBET, as well as appropriate assessment strategies to confirm attainment of competences;
- c) Inadequate funding which leads to poor or insufficient teaching and learning infrastructure, materials, and environment;
- d) Poor or lack of research and development support for teachers and trainers as well as for the regulatory authority (i.e. NACTE) that could have built monitoring and evaluation skills among key stakeholders for reflective endeavours on CBET implementation;
- e) Lack of adequate Government will to support CBET practices; and
- f) Deteriorating social values as a result of the influences of globalisation and poor governance which leads to a decadent society challenging the endeavours to build a socially cohesive society.

As Tuck rightly put it “the key to successful implementation is to develop a broad strategy that takes account of all factors influencing success” (Tuck, 2007: vi); which Grainger and colleagues said they include “policy coherence across different ministries, an enabling funding regime and support for education and training institutions, including the development of learning materials and professional development” (Grainger *et al.*, 2012: 15). Put another way, the attempted implementation of the technicist concept of competence became tied up with the fragmentation effects of marketisation and the bureaucratisation of the state.

The study however, has affirmed that CBET has played a key role in modernising TVET in Tanzania and acting as an opening influence or rather catalyst for change. Affirmation was given on how CBET has increased the attractiveness of TVET in the country and influenced the establishment of the national technical and vocational qualifications framework with consequent discussion and preliminary work to establish a Tanzanian national qualifications framework (TCU, 2010). This development, notwithstanding, there is still a lack of “professionalisation of teachers and trainers” (Cedefop, 2009: 1) to equip them to

carry out CBET practices, as well as a critical absence of a culture of evidence-based enquiry and development. A lack of a research culture in TVET in the country therefore contributes to the challenges facing the CBET practices due to absence of informed reflection regarding “the complex relationships and interdependencies between education and training and the socioeconomic system” (Cedefop, 2009: 5). Thus, there is a need to develop a new ‘social model’ of competence and an environment that addresses the conditions that seem to ‘lock’ the Tanzania’s concept of competence.

The emergence of social concerns and a possible new model

RQ5 asked about evidence that another model of competence could emerge in Tanzania, its main features and how it might perform in relation to future need. In addressing this question I analysed stakeholders’ views on how Tanzania had adopted a particular version given its position in historical, technological, social, and economic development. The analysis also considered the stakeholders’ concerns about economic liberalization, technology and globalisation.

The research suggests that concerns about technical competence in the workplace have been overtaken by new anxieties arising from the rate of change resulting from economic liberalization, technology and globalisation, particularly the erosion of social cohesion. This is experienced as a sense of loss of direction of the former social and community norms that used to tie people together, working practically together in agricultural farms and other production sectors to bring about the country’s socio-economic development as this was envisaged by *Mwalimu* Julius Kambarage Nyerere, the founder President of Tanzania through Self-Reliance and Ujamaa policies soon after independence in 1961.

The wider governance and cohesion crisis suggested by the study findings suggests a broader view of competence which references back to Ujamaa policy during President Nyerere’s era. Consequently, it points to the need for a programme that focuses on wider skills and capacity building and less on the technical framework approach. The social approach is also signaled by the country’s efforts to bring back in 2013 the defunct National Service which aimed at instilling cultural and social values, good behaviour and attitudes, civic

awareness and patriotism among the Tanzanian youths soon after secondary education level. The social approach advocated by this study suggests that alongside placing emphasis on the cognitive domain of competence, which includes thinking and reasoning skills developed through the acquisition of knowledge and skills, it is also important to develop the intrapersonal domain to help trainees to manage their behaviour and emotions, and the interpersonal domain so that trainees are able to express ideas and communicate appropriately with others. Thus, the suggested version of competence connotes the desire for a national renewal in order for the country to develop economically and morally.

I suggest that we need to modernize Nyerere's ideas and doctrines through an enriched competence approach in order to remedy the situation, and 'unlock' the concept of competence. This could entail broadening competence to embrace the 21st century competences as an 'expansive' approach to develop the conditions for success. There is need for a developmental concept of competence which entails the development of capacity, capability, and a much broader notion of competence allied to the reform of the state and its institutions.

Reforming the state and institutions: conditions to 'unlock' the concept of competence in Tanzania

All research questions, RQ4 in particular, asked about the practices that shaped the stakeholders' understanding of the emerging Tanzanian concept of competence and what were perceived as the conditions for its successful implementation and future development. In addressing all research questions the findings revealed the need to reform the state and institutions for realisation of a broader view of competence.

In order to 'unlock' the concept of competence in the Tanzanian context there is a need to overcome the 'low skills equilibrium' in the country to support improvement of CBET practices, which according to Finegold and Soskice (1988) "connotes a self-reinforcing network of societal and state institutions which interact to stifle the demand for improvements in skill levels" (1988: 22). Finegold and Soskice identified the societal and state institutions to be a "set of political-

economic institutions....[including]: the organization of industry, firms and the work process, the industrial relations system, financial markets, the state and political structure, as well as the operation of the education and training system” (ibid: 22). As Finegold and Soskice argue investment in improving education and training system would bring significant positive change provided that the surrounding industrial structure, which Finegold termed “self-sustaining *high-skill ecosystems*” (1999: 61) is not ignored. This holds true for the development and implementation of CBET in Tanzania to bring about expected benefits. The network of societal and state institutions as well as the surrounding industrial structure ought to be given due emphasis in the overall CBET practices as concluded below.

a) *The state structure*

Though the Ministry of Education and Vocational Training (MoEVT) is in charge of educational matters in the country, the role of training, specifically technical training is overseen by diverse ministries. NACTE, for example, under the MoEVT is mandated to coordinate, monitor and regulate technical education and training in the country; however, technical institutions are still owned by parent ministries, a situation which leads to “persistent weak linkages between technical education training institutions and NACTE” (URT, 2012: 3). Consequently, the current state structure poses a challenge to NACTE to properly harmonise and synchronise its functions and activities with the demands made by the parent ministries of the technical institutions under their mandate. This is a challenge emanating from weakness in the TVET policy and regulatory frameworks as discussed in Chapter 6, which I argued contribute to ‘lock’ the concept of competence in Tanzania. More often than not, some public institutions receive contradictory operational directives from either the parent ministry or NACTE due to this weak assignment of accountability, for example issues of students admission and assessment. In order to ‘unlock’ this, there is need for the policy to state clearly the respective mandates of NACTE and the ministries owning institutions in order to facilitate effective management of TET under NACTE. Having a clear demarcation of levels and accountability would assist NACTE to establish a proper coordination of the TET system.

Another weakness is the relationship between the Government ministries and departments (Ministry of Labour and Employment, Ministry of Finance, President's Office - Planning Commission, National Bureau of Statistics) and NACTE in education and training functions such as the conduct of labour market surveys to facilitate setting of qualifications standards for CBET curriculum development, provision of accurate labour market statistics to guide future skill requirements, management of the six percent skills development levy contributed by the employers and the general funding of TVET. Lack of proper coordination among these key stakeholders challenges CBET development and implementation efforts to produce competent graduates; thus locking the concept of competence in Tanzania.

The state structure also shapes the country's firm/industry structures. The open-market policies adopted in Tanzania related to global commerce and business freedom saw an unprecedented influx of foreign investment, which together with local investments continues to strengthen the country's economic expansion. However, the anticipated dynamic economic expansion may not be realised if the country continues to witness poor local product markets, manufactured goods and services demanding the lowest skill requirements, which consequently lead to massive importation of such products, goods and services from abroad. This tendency hampers the education and training zeal of developing a CBET system robust enough to build the requisite competences for the production of such products, goods and services locally. There is a need to institute effective regulatory frameworks to stimulate local business conduct, product markets, manufactured goods, and services demanding advanced and new technologies for efficiency and quality output to encourage extensive innovations within the industry, provider institutions and the entire country's workforce. Policy and regulatory frameworks within the country ought to task industry to embark on a long-term stance through investing in the education and training of the current and future workforce in partnership with the Government and other stakeholders instead of the current trend whereby the industry seems to harbor the short-term perspective characterised by aspiration to maximize immediate profits (Finegold & Soskice, 1988). Industry ought to take a championing role through encouraging and supporting the adoption of advanced technologies and investing

in innovations that improve product output and competitiveness. It ought also to be forward looking and jointly working with provider institutions to develop a CBET curriculum that takes on board “the characteristics needed in the longer term” and thus not only “the skills and knowledge which [they] can see as immediately useful to them” (Finegold & Soskice, 1988: 37).

b) Role of strong networking

As previously explained weak networking has seriously discouraged education and training efforts to improve the competences of the workforce. Networking is not only in relation to industry. There are other key partners whose contribution to CBET efforts is not adequate include for instance employers’ association, trade unions, professional bodies, and regulatory bodies.

The association of Tanzania employers (ATE): Though ATE has extended a supportive role to CBET development in the country; its contribution in the implementation is not strong. Since ATE “represents a cross section of employers” with “about 1000 members” countrywide it is therefore well placed to play “a major role in the development” of suitable national policies and legislation for “employers and the business community as a whole” (ATE, 2011: 1-3). Despite the strong membership base, however, ATE’s position in national training policy formulation is not strong as it lacks the authority necessary to ensure that employers fully support and participate in CBET development and implementation undertakings; and more so in influencing considerable contribution by the industry to the skills development levy as well as its distribution for TVET endeavours. There is thus a need for concerted efforts between ATE and the industry to team up with the Government through the Ministry of Industry and Trade to form a coordinated national training policy to spearhead CBET practices in the country.

Trade unions: Currently, Tanzania has two national trade unions namely Trade Union Congress of Tanzania (TUCTA) formed in 2000 and founded as a new umbrella organisation for the unions of the country but covering only mainland Tanzania; and Zanzibar Trade Union Congress (ZATUC) formed in 2002 from a merger of nine unions in Zanzibar. The Workers and employees’ voice is

represented through the unions whose main role has “traditionally been the principal agency of voice representation for workers’ and employees” (Dasgupta, 2002: 413). The union’s collective voice could be strengthened to support the Government’s efforts of bringing about positive political and socio-economic development in the country. There is limited involvement of trade unions in CBET in Tanzania. There are patchy views collected from individual members as opposed to the proper voice of the workers and employees through their parent unions.

Compounded by the effects of privatisation and globalisation which “have greatly undermined their efforts, as the working class is being decimated through redundancy and impoverished” as a result of privatizing public services (Shivji, 2004: 693), the role of unions in voicing their contribution to CBET policy initiatives is not evident in Tanzania. Moreover, there is a lack of active participation and contribution from diverse Non-Governmental Organisations (NGOs) in the country to complement trade unions’ efforts. The NGOs could contribute enormously to the CBET policy debates and therefore as Shivji rightly puts it: play the role of “a watchdog, critiquing the shortcomings in government policies and their implementation” (Shivji, 2004: 691).

Professional bodies and Regulatory bodies: There are many professional bodies and regulatory authorities in Tanzania spanning all subject areas/fields for the programmes delivered by the technical institutions under the mandate of NACTE in the country. The bodies are mandated by their establishing Acts and statutes to set professional standards, monitor and regulate respective professional activities, including registration of the professionals to legally allow them to practice the profession after confirming their competence.

These are vital organs to fully take part and contribute effectively in the processes of CBET development and implementation in partnership with NACTE, provider institutions and other key stakeholders. However, the involvement of these bodies has been negligible. Consequently, some of these organisations do not trust the work of NACTE in establishing CBET in the country. This was due to lack of “a pragmatic approach that develops genuine support and trust among

key stakeholders” (Grainger *et al.*, 2012: 16). I borrow Grainger and colleagues’ affirmation that the “process of developing CBET must take into account the need to foster trust among the various stakeholders so that they can have confidence in the integrity of the resultant” CBET and TVET more generally (*ibid.*).

c) *Focusing on capacity building*

This suggests that you cannot have competence without improved institutional structures and the ability of the human resource to translate the notion of competence into the national context. Unless adequate attention is directed to investing in the input (human, partnerships with the workplaces, financial and physical resources like machinery and other infrastructures), it is unlikely to get the right output. In that sense, there is a need to have strong institutional structures, human resources and forms of learning that are suitable to the workplaces in order to create a balance between knowledge and practice. Although this is a worldwide problem, it is particularly acute in Tanzania because of resource scarcity on the ground and the weaknesses of mediating TVET institutions.

Capacity building is among the pre-conditions for successful CBET implementation in Tanzania, thus due weight ought to be accorded to address the weaknesses pointed out in this study. There is a need to adequately and critically analyse the prevailing circumstances in the country in terms of education and training at all levels to determine the improvements needed and the contingent level of support to realise the benefits accruing from CBET undertaking. It is important to embrace policy learning as against policy borrowing because it “puts a strong emphasis on the development of national capacities to lead the design and implementation of [T]VET reforms” (Chakroun, 2010: 204) through involvement of a wide range of internal and external stakeholders in order to tap “all available national and international experience” (*ibid.*: 206). Capacity building will necessarily require:

- i) The availability of sufficient funds to support diverse functions such as reaching wider stakeholder groups and creating their CBET awareness, training and peer learning;

- ii) Supporting infrastructural development in provider institutions and providing them with adequate human and physical resources to support the teaching and learning environment;
- iii) Supporting staff development projects to provide adequate, qualified, and motivated teachers and trainers for CBET delivery and assessment to effectively facilitate acquisition of requisite competences in themselves and in learners;
- iv) Developing effective system of quality control and quality assurance that respects and provides regular feedback to teachers, trainers, learners, NACTE, and other stakeholders through regular monitoring and evaluation of CBET implementation.

All these call for a systematic and scientific planning of reforms involving stakeholders. Such reforms ought to embrace the need for a well designed CBET “curriculum package that takes on board needs of stakeholders”, as well as “accompanied with enough and well-trained, mentored and constantly developed teachers” and trainers (Mosha, 2012: 9). The reforms ought to be informed by research; and therefore there is need to built research capacity of NACTE staff, staff in provider institutions, educationalists, professionals and policy makers and other key stakeholders with key stake in TVET so that their actions and decisions are informed by research. For teachers and trainers in particular, there is need to build “a culture of adaptability, accountability, commitment and responsibility for students’ moral and cognitive development” and “to have the skills to create and maintain a socially just, equitable and sustainable world” (Mosha, 2012: 42).

One example of this **social-technical** approach to competence in Tanzania is a proposed collaboration between NACTE, Tanzania and the Institute of Education (IOE), University of London with the aim of improving the ability of NACTE personnel to undertake research. The “*research capacity building*” mission also aims to improve technical education provision in Tanzania, build NACTE’s capacity to bid for external research development funds, and foster a research approach in the Tanzanian technical institutions under NACTE’s remit. Fortunately the request for collaboration was approved by the two bodies and the first meeting between two officials from IOE and key members of NACTE

Secretariat was held in Dar es Salaam, Tanzania on 24 June 2013. This is a one year contract in which the first two-days research capacity building workshop was held on 23 and 24 June 2014 with the facilitation from IOE.

d) *Respecting good governance*

The TVET and CBET reforms envisaged in this study are ambitious especially for a country with weak economy like Tanzania, and thus will require competent and dedicated leadership and strong management at different levels. This also demands a robust TVET organisational structure that ensures the effective and real influence of a range of stakeholders to guarantee efficient and effective steering of the system and drawing on the wide range of TVET and CBET expertise. For this to be realised there is a need to guarantee the availability of sufficient funds through diversifying financing resources and mechanisms. This calls on the Government to spearhead and support this endeavour by creating an environment which provides for substantial operational flexibility that allows for interaction with the different sectors, organisations and interest groups in the country to support the funding function. This means instituting and implementing transparent policies in the Government budgetary allocations to TVET and CBET systems; and properly managing and disbursing the funds provided by employers through the skills development levy (SDL), development partners, and contributions from direct beneficiaries of TVET. There is a need to strengthen the income-generating capacities of TVET institutions “to complement resources required in the TVET system” (Ethiopia, 2008: 41).

It is important to note that these intentions could only be a reality provided that there is adequate political will supported by good governance in contrast with the way the stakeholders currently see the conduct of the state which is marred by poor governance characterised by widespread dishonesty and misappropriation of Government’s funds to support CBET practices. This study suggests the need for prevalence of good governance to support the CBET functions and build an ethical and humane society respectful of societal norms and values for the much desired social cohesion in the country. For the suggested social-technical model to thrive I advocate for investment in social development, effective institutions governed by the moral attitudes that recognise honesty, tolerance, commitment,

equal distribution of wealth from the country's resources in order to reclaim and improve the strong family and social structures for the country's socio-economic development. Since the concept of competence came to Tanzania through the process of policy borrowing, I advocate for critical evaluation and reflection on the way the Tanzanian model of competence has been developed and implemented and its role within the national context.

Policy suggestions and implications

The study has revealed that CBET practices under TVET face diverse challenges which need to be addressed in order to develop and promote a competent and skilled workforce in the country. In order to further address RQ5, particularly on how a new competence model might perform in relation to future need, I thus propose a number of policy recommendations for consideration by national policy makers to support an effective CBET teaching and learning system.

Sustained political commitment to support TVET and CBET agendas

The Government and political leaders should uphold good governance and strong leadership tenets. They need to place TVET at the centre of national development strategies. They need to reach beyond Government agencies to involve civil society, private, voluntary sectors, and other interest groups and use their influence to make TVET and CBET development and implementation agendas a shared goal throughout the society. This calls for developing a supporting policy and setting clear policy goals and objectives underpinned with coherent strategies for delivery, as well as feasible budget commitments. Such strategies should include instituting a requirement for the industry, Government and stakeholders benefiting from TVET products to contribute in funding TVET functions.

Policy on teachers and trainers training in CBET delivery and assessment techniques

Both the Government and TVET regulatory authority (NACTE) should develop a policy that emphasizes new approaches to teaching, learning, and assessment under CBET. This policy should support and encourage improved provision of teaching and learning infrastructures and an effective teaching and learning

environment which includes motivated students, well-trained and motivated teachers and trainers and a safe teaching and learning environment in order to raise standards of CBET practices in the country.

Policy or legislation of networking between the industry and provider institutions

In order for the industry and provider institutions to network to support CBET implementation there is a need for legislation to ensure greater and more regular collaboration and information sharing between the industry and provider institutions.

Policy to encourage and support research capacity and culture in the country

Effective CBET practices ought to be based on a thorough understanding of the wide range of factors that influence the competence development of learners and trainees within the prevailing country's historical, cultural, social, political and economic situations. However, this study has revealed a lack of research capacity and culture in Tanzania, particularly in the technical institutions, Universities and among practitioners and communities. There is therefore the need for research capacity building among the country's elite population as well as communities to encourage practices that are informed by research and to promote working together synergistically. Thus, policy should aim at promoting the participation of teachers, trainers, students and other stakeholders in research and enhancing their involvement in TVET policy formulation, review and implementation.

Reform of CBET in Sub-Saharan Africa (SSA): some final reflections

The preceding sections have provided a discussion on the factors that shaped the notion of competence and CBET debates in Tanzania resulting from the socio-economic pressures in the late 1980s and early 1990s. The sections covered the way CBET was borrowed from the reviewed Anglo-phone nations in Europe, and the way it is 'translated' and 'mediated' in the country. The study findings revealed that Tanzania adopted a technical version of competence, as a result of policy borrowing, which is nested in the neo-liberalism, democratisation,

in the market and in the state that actually act as the locking device for the notion of competence in the country. The views of the stakeholders indicated a desire for the Tanzania technical model of competence to be nested in the social model to form a social-technical model as a broader developmental concept of competence demanding reform of the state and the institutions that articulate it in order to be effective and successful. Before confirming this controversial argument I undertook one final check to reflect on the notion of competence and CBET experiences in the Sub-Saharan Africa (SSA) countries which have relatively similar socio-economic environments like Tanzania. The SSA consists of African countries within the African continent area lying south of the Sahara desert.

Historical implications influencing education in SSA countries

Educational change and development in the SSA and in the Southern African Development Community (SADC¹¹) region in particular “has been marked by different periods of history: the period of colonialism and struggle for independence, the immediate post-independence period, structural adjustment, and the political and economic liberalization of the post-1990 period” (Chisholm, 2007: 298). Chisholm affirms that though the “periods do not coincide exactly with one another in each country in the region, but each phase has had distinctive impacts on the goals and directions that education has taken” (ibid: 298) in these countries. Traversing from need to modernize and expand education at all levels in order to emancipate the nation and individuals and achieve independence, to a resolve to address “protracted political and economic crisis both in the region and in the world economy” (ibid), most SSA countries had experienced diverse educational reforms.

NQF and CBET experiences in SSA countries

Literatures on CBET developments in SSA are scarce and few available ones are quite recent. With the exception of South Africa where debates on NQF and outcomes-based education (OBE) are prevalent, “the diffusion of [these] educational ideas in the regional context” and pertinent “research into the nature

¹¹ SADC currently consists of 14 Member States: “Angola, Botswana, the Democratic Republic of the Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, the Seychelles, South Africa, Swaziland, the United Republic of Tanzania, Zambia and Zimbabwe” (Krönner, 2005: 9).

of corresponding changes” in the region after the models became “adopted and indigenized” are scarce (Chisholm, 2007: 296). In the Southern African Development Community (SADC) region for example, NQF movement started in 1997 as a result of the 1997 SADC Protocol on Education and Training (SADC, 1997: Article 6 3. b iv), which by 2005 saw all 14 SADC member states engaging with “the regional qualifications framework” and CBET development (Krönner, 2005: 9; SADC, 2005). Since actually when people develop CBET they develop it from NQF, the review on NQF and CBET experiences in the SSA countries under this section will cover mostly the NQF experience.

Like it is in the reviewed Anglo-phone nations in Europe, the situation of TVET in the SSA countries varies widely and is characterised by diverse delivery and provision systems. The diversity emanates from the “differences in historical, political, educational, cultural and economic contexts [which] largely account for such variations in structures, operating conditions and outcomes” (Atchoarena and Delluc, 2002: 95). The economic and financial crisis that walloped the SSA countries “since the mid- 1980s has brought deep changes in the structure of the production system and on the labour market” (ibid: 95). Thus, TVET systems “gradually became unable to train young people with the qualifications demanded by businesses” (ibid: 95). In order to address this and other challenges facing TVET, SSA countries eventually had to “reconsider policy options and delivery systems” (ibid). This situation saw advent of NQF policy in SSA countries most of which (e.g. SADC countries) imported the concept from South Africa whose NQF underpinnings were also borrowed from New Zealand, Australia, and the United Kingdom. Despite several challenges which faced the South Africa’s NQF and CBET implementation, the country was a major exporter of the NQF and CBET to most SSA countries. However, as Atchoarena and Delluc observe the NQFs “are being ‘duplicated’ in an increasing number of countries with no factual evidence on implementing conditions, costs and on impact (Atchoarena and Delluc, 2002: 342).

Implementation of NQF and CBET in SSA countries and pertinent challenges

The NQF and CBET movement in SSA countries such as Botswana, Eritrea, Ghana, Kenya, Mauritius, Mozambique, Namibia, and Zimbabwe emanated from

diverse concerns which were facing TVET practices including “the poor articulation between qualifications and actual skills needs in the workplace”; ...“poor credibility and quality of existing qualifications and training programmes”; ...“lack of coherence and the rather fragmented nature of the qualifications system”; ...“challenges of recognition of non-formally acquired skills and their integration into the formal system”; ...“lack of regional comparability and compatibility (Tuck, 2007: vi). The development of NQF and CBET aimed at addressing the aforementioned concerns.

However, their adoption in SSA nations faced diverse contextual challenges including limited experience of the translators on the ground and “much weaker educational, economic, and institutional environments” which affected the overall implementation and practice (Atchoarena and Delluc, 2002: 307). Thus, their adoption and implementation as “a broader agenda for ensuring competitiveness in the global economy and producing a highly qualified and flexible workforce within the framework of a lifelong learning society” was difficult to realise (ibid: 303). The NQF’s specificity of being outcomes-oriented in nature, its introduction in SSA countries marked merely “a broader conceptual shift in education from classical input/process focus to output-focused models” (ibid: 304) which followed largely the behaviourist approach to the notion of competence found dominant in the reviewed Anglo-phone countries. Consequently, despite “a common ‘semantics’ of reform, there has been relatively little implementation and corresponding impact on practice” (Chisholm, 2007: 297).

Chisholm confirms that with the exception of Botswana, SSA countries could not succeed in addressing the socio-economic challenges due to the setback as a result of colonialism “combined with poor management of resources”, weak human resources and capacity, and shrinking national budgets following adopted structural adjustment policies from the mid-1980s which “resulted in a squeeze on resources for education” (ibid: 299). This is also confirmed by Chisholm and Leyendecker that although learner-centred, outcomes-and competency-based education and national qualifications frameworks are increasingly promoted as part of this new educational reform movement in SSA nations (e.g. Botswana, Namibia, South Africa, Tanzania, Uganda), “there is overwhelming evidence from

very different kinds of sources, that the idea has not taken root in classrooms” (2008: 197). They affirm that though they were “favourably received at local level in sub-Saharan Africa but have not resulted in widespread change in classroom practice” (ibid: 195).

Conclusion on the Sub-Saharan Africa CBET reforms

The review has affirmed that “reforming TVE public institutions remains a key challenge to rapidly have an impact on the quality and relevance of training” (Atchoarena and Delluc, 2002: 342). Though there are many challenges facing educational reforms in many Sub-Saharan Africa countries, but the positive achievement in Botswana need to be emulated. Botswana’s education and training system strengths rest on the “availability of a policy document to direct its activities”, the Government’s budgetary support in which “the education sector receives a lion’s share of the national budget” (Atchoarena and Delluc, 2002: 211), stakeholders, private-sector and NGOs involvement which have “traditionally played a very substantial role” (ibid: 213), and above all good governance characterised by dedicated, committed, and honest leadership (Chisholm, 2007; Chisholm and Leyendecker, 2008). If other countries emulate this exemplary performance in Botswana, most of the challenges could be lessened. Key is for any country developing the NQF and CBET to be cognizant of the importance to “work out a solution that suits its size, traditions and existing structures and which is as cost-effective as possible” (Tuck, 2007: 34). It is also vital to ensure that the perceptions of diverse stakeholders are considered in the development and implementation so as to generate “confidence in, and acceptance of, the new system” (ibid: 61). There is therefore need to transform “the institutional, legal and financial framework in which institutions operate” (Atchoarena and Delluc, 2002: 342-343). This calls for “sufficient and adequate support from the state” to spearhead “new forms of micro-level interventions to reform institutional management and leadership and to develop the institutional capacities required for establishing meaningful linkages with the environment” (ibid: 343) in order to improve the “impoverished and weakened institutions” that lead to ‘locking’ the notion of competence and struggling CBET practices in Sub-Saharan Africa countries (ibid: 343).

Research argument

First I argue that the version of competence understood by stakeholders in Tanzania has been shaped internationally but its implementation is informed by a social system that is historically rooted in the Tanzanian context and which is ecologically nested inside the social model. Second, the emerging version of competence that results from policy borrowing and weak internal translation due to capacity issues locally is a theoretical concept in Tanzania. These challenges lead to conditions that suppress or lock the concept of competence in the country. Third, the suggested way to 'unlock' the concept of competence in the Tanzanian context in order to broaden it to embrace the 21st century competences should be taken as an 'expansive' approach.

The identified conditions found to 'lock' the concept of competence and the suggested conditions to 'unlock' it suggest that the social-technical model of competence could have a better approach in the given Tanzanian environment if the identified challenges are addressed. My argument is that the social-technical model of competence emerging from the findings is the imported model. This model which has not adapted enough has collided with the market fragmentation and bureaucratic state which are part of the conditions that made it ineffective. At this moment the technical model is not nested in the social model; rather it is nested in the bureaucratic state and in marketisation. The unlocking strategy suggests that the technical model should be nested in the social model. This will mean not just offering the concept of competence, but also building a more democratic and participative infrastructure within which the broader model of competence is operated. Thus, my argument here is that actually the broader model of competence needs to go back in the country's history and take the best of Nyerere and fuse them with the notion of competence in order for the technical model to be nested inside the social model.

Theoretical contribution

The study has set a theoretical model developed for understanding the genesis and evolution of the notion of competence globally and in particular within the Tanzanian TVET interface against the context of under-researched and

sometimes under-valued TVET provision. As a contribution to knowledge this research has helped to reveal that though the international context has produced a dominant model (the behaviourist approach); the Tanzanian context has suggested the potential of a social-technical model as drawn from more of the responses by the pioneers, other CBET implementers on the ground, and the way that CBET is institutionalised and played out as well as the terrain on which I have conducted this research. The findings about the difficulty that this model has experienced in the Tanzanian context including the history on one hand, and a lingering desire through memories of Nyerere's Ujamaa to have a more collective approach, and the modern attitude form my contribution to knowledge. The findings have also revealed a lingering desire to have more responsible and energetic citizenry with entrepreneurial mind upholding a new sense of being, which is not bureaucratic, and which associates with the very good end of the private sector.

Following from this, and the arguments given above, I therefore improved on the theoretical framework developed in Chapter 3 distinguishing four main traditions in competence research (Norris, 1991; Eraut, 1994; Mulder *et al.* 2007): *the behaviourist, the generic, the cognitive, and social-constructive* to include the Tanzanian *social-technical approach* to competence; and suggest the current Tanzanian trajectory of competence resulting from this study.

Following the developed restrictive/expansive continuum in Table 3.1 (Chapter 3) along which the trajectory of the notion of competence and CBET debates in the six countries which have been established to traverse or locate, the current Tanzania's behaviouristic notion of competence seems to be shifting from its present *Task-based and fragmented/Holistic (integrated) production-based* continuum (Table. 3.1 in Chapter 3) resulting from policy borrowing to the desired state of social-technical approach along *Marketisation/Social partnership and collaboration* continuum. However, for this model to traverse along this continuum there is need for concerted efforts at all levels in the country to address identified challenges. From the perspectives of the Mining employers about more complex forms of production due to automated mining processes causing the Tanzanian notion of competence to traverse the *Task-based and*

fragmented/Holistic (integrated) production-based continuum, but with more people starting to say that actually it is the social dimension which matters most indicates that CBET trajectory starts to move along *Marketisation/Social partnership and collaboration* continuum.

Finally, following from the study findings, the way they have been debated and found to exist through this research in the form of a struggle in the wider politics, as well as more reflections on CBET reform in the Sub-Saharan Africa, it is clear that other countries in Africa have suffered from some of these weaknesses. Thus, the specificity of Tanzania notwithstanding, I am convinced that for Tanzania the legacies of its history can hardly make this model work unless there is much wider strategy towards the state as recommended by Raffe (2009), Grainger and colleagues (2012), Allais (2010), Young (2007), Atchoarena and Delluc (2002), Chisholma and Leyendecker (2008), and others. In a sense it follows the logic of the international literatures that I have reviewed. Therefore, the *social-technical approach* as the possible emerging concept of competence in Tanzania is the research's contribution to knowledge. While the Anglo-phone nations' and South Africa's desire is on the social-constructive approach to the notion of competence, the Tanzania's desire is on the social-technical approach.

This study is also a foundational research particularly in Tanzania where none or limited researches have been done to determine the understanding of CBET translators on the notion of competence and the way they mediate CBET practices at tertiary level in a country lacking capacity of the mediating bodies as well as poor socio-economic infrastructure. This I suggest means reforms in the TVET sector, revisiting the design, development, implementation and adaption of CBET programmes, and improving the supporting infrastructures found inadequate in the country in order to realise the benefits accruing from CBET endeavours.

Future research

This study has revealed findings that may push for further research considerations on the notion of competence and CBET development and implementation in Tanzania to further confirm the perceptions and chart changes.

There are numerous areas that may need further investigation in order to additionally unveil the understanding of the notion of competence and CBET implementation in Tanzania to develop a skilled, moral and competent workforce for the country's social economic development. First, there is a need to investigate in detail the way a CBET curriculum is designed and implemented in all fields covered by the TVET system and its impact in equipping the trainees with requisite competences. This will involve following-up with the provider institutions to observe teachers and trainers' curriculum delivery and assessment practices over a period of time to assess their CBET pedagogical knowledge engagement both in theory and practical settings. Second, I suggest investigating graduates and students' perceptions on the notion of competence and the way they see the implementation of CBET curriculum both inside and outside the classroom. Third, there is a need to seek more insights into the competence and CBET notions and challenges through a wider sectoral level analysis involving diverse stakeholders in particular sectors (i.e. tourism, business, management, social work, etc.) to provide a wider scope of analysis at each sectoral level. The four researches may help to further understand the performance of the Tanzanian CBET against the existing assumptions of the competence model in relation to current and future country's need.

Use strategy of the research findings

As part of the 'usage strategy', in order to 'strengthen' the translation of competence in Tanzania by the development of what I have termed a 'social-technical model', the research findings will be disseminated to wider stakeholders. Based on one of the study aims which targeted to utilize the study outcomes as 'a use strategy' to propose necessary intervention measures to bring about an expansive approach to effectively implement the emerging social-technical model of competence in Tanzania the following 'use strategy will be adopted.

Foremost, as a future research I plan to take this model (*social-technical model*) to the people in Tanzania and ask them whether they agree that this is the way the Tanzanian notion of competence should go. Since I work with the National Council for Technical Education (NACTE), which is mandated to oversee

technical education and training in the country, I will team-up with colleagues in the workplace and other key stakeholders to further investigate the propositions advocated in this research. This strategy will involve to:

- Market this thesis to NACTE Secretariat for information and critical dialogue.
- Develop a summary and market key research findings to the Director responsible for Technical and Vocational Education and Training (TVET) under the Ministry of Education and Vocational Training (MoEVT).
- Incorporate views of the Director – TVET in the summary report and then submit the report to the Permanent Secretary – MoEVT for information and request for endorsement for dissemination to wider stakeholder groups.
- Disseminate research findings to wider stakeholders in Tanzania.

The stakeholder groups shown above are what I call a new range of policy actors both within NACTE, across technical and vocational colleges; within various national policy actors involved in TVET and across different ministries. In building what could be regarded as an ‘alliance for change’ as was highlighted in Chapter 5, I will be assisted by academics from the Institute of Education (IOE) – University of London who are experienced in the area of policy translation and enactment and whose views are considered to be ‘independent’ in the Tanzanian context to implement the ‘usage strategy outlined in an exemplar plan above.

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Appendices

Appendix I

Questionnaire in support of a preliminary investigation – respondents' views

INSTITUTE OF EDUCATION, UNIVERSITY OF LONDON

MPhil/PhD IN EDUCATION

QUESTIONNAIRE/INTERVIEW IN SUPPORT OF A PRELIMINARY INVESTIGATION TO CONFIRM THE FACTORS THOUGHT TO BE INFLUENCING THE TANZANIAN CBET AND THE NOTION OF COMPETENCE

QUESTIONNAIRE/INTERVIEW TO PRELIMINARY INVESTIGATION RESPONDENTS

1.0 INTRODUCTION

This preliminary investigation is in support of a doctoral research entitled "*The emerging Tanzanian concept of competence: conditions for successful implementation and future development*". The major aim of this study is to explore competence-based education and training (CBET) manifestations and implications globally and their influences on the Tanzanian CBET and the concept of competence developed in this national context. This empirical work is targeted at collecting key stakeholders' perceptions on the Tanzanian model of competence/CBET and its performance. The findings from the empirical work will be used to study and analyse the perceptions of the key CBET stakeholders in order to extend our understanding on the performance of the Tanzanian CBET against the existing assumptions of the competence model in an attempt to predict its performance in relation to future need.

The research is informed by background literatures on the origins of competence-based education and training (CBET), the notion of competence and pertinent debates within the six nations of United States of America, United Kingdom, Australia, the Netherlands, Germany, and South Africa. Informed by the findings from the background literatures, a theoretical model mapping CBET trajectory and notion of competence in the six nations under review is developed to illustrate CBET manifestations as it is impacted by various external and internal factors. The findings are then used to propose external and internal factors influencing the Tanzanian CBET and the notion of competence since its inception in the country in the early 2000s.

The purpose of the preliminary investigation, which uses questionnaire and interview methods, is to confirm the proposition that the outlined external and internal factors do influence the Tanzanian CBET and the notion of competence. I will be grateful for dedicating your time to answer the questions in the questionnaire, and a short interview that will follow to further discuss and confirm the views given in the questionnaire. Your views will help me to confirm the proposed factors and to enable me proceed with the development of a theoretical model for the Tanzanian CBET trajectory and notion of competence to inform CBET practices in the country. I assure you that your views will be treated confidential and used only for the purposes of the current research. I thank you in advance for participating in this study.

2.0 BACKGROUND INFORMATION

2.1 Date of interview:

2.2 Interviewee's Gender (F/M):

2.3 Name of the organisation/Institution:

2.4 Location:
.....

2.5 Website:

3.0 PRELIMINARY INVESTIGATION QUESTIONS (Please use Fig. 1 and Table 1 to provide your views)

3.1 What factors given in Appendix I (Fig. 1) do you find to really influence the Tanzanian CBET debates and notion of competence?
.....

- 3.2 Are there any other factors which you think influence the Tanzanian CBET debates and notion of competence? If yes, please add them in Table 1.

- 3.3 What priority in terms of impact (the most impact given priority number 1) do you give to each factor in Appendix I (Table 1) in as far as it influences the Tanzanian CBET debates and notion of competence?

- 3.4 Why do you think that the identified factor influences the Tanzanian CBET debates and notion of competence?

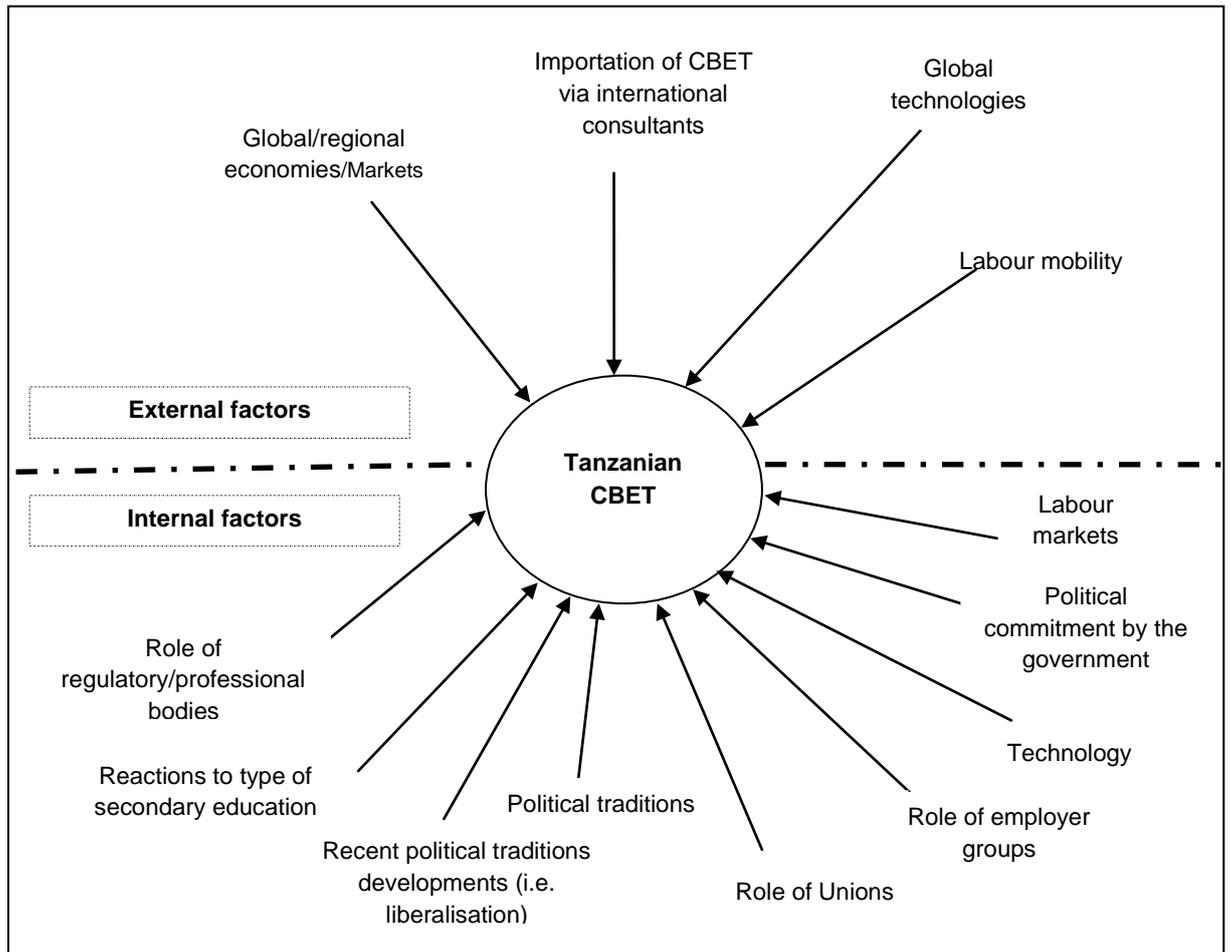


Fig. 1: External and internal factors influencing the Tanzanian CBET and the notion of competence

Table 1: External and internal factors influencing the Tanzanian CBET and the notion of competence

S/N.	Factors	Respondent	Priority	Views
External factors				
1.	Global/regional economies/markets	R1	2	<i>Production in the Regional/global economies/markets demands people who are highly knowledgeable and skilled, while at the same time competing for few employment opportunities available.</i>
		R2	2	<i>Increased sharing of goods and services call for improvement of service delivery. This means only those who can deliver will survive in the global economies /markets hence competitive countries are rewarded more. This calls for changed education system to allow for graduates who can compete in the globalised economies and markets.</i>
		R3	1	<i>Ever-changing job demands – knowledge + skills</i>
		R4	High	<i>The demand from global markets has a great influence on the way CBET is/supposed to be delivered.</i>
		R5	1	<i>Employers today need competent employees for output generation.</i>
		R6	1	<i>CBET is designed to ensure that upon graduation, learners possess the requisite competences that can be applied flexibly in relevant workplaces. Employers, professionals, government and society at large will be satisfied with competence of graduates in relevant occupational sectors.</i>
		R7	1	<i>Markets and contemporary economy is inevitably creating winners and losers by benefiting better-educated/skilled workers more than the less educated and the less skilled. Labour market trend points to increasing employment and wages for workers who are technically competent while incompetent workers are losing ground in terms of employment and majority are at increasingly higher risk of losing their jobs in the future. Employers mostly investors in agriculture, hospitality industry, construction and mining were/are forced to hire foreigners due to incompetence of national/local graduates</i>
2.	Importation of CBET via international consultants	R1	4	<i>CBET- in Tanzania has not been imported by consultants or development partners, rather they have been asked to support the effort. Remember the notion of Competence is not new in Tanzania technical education system. In years 1970s to 1980s, trainers were using the terms such as Hands-on training, participatory, self-directed learning, which are somehow similar and compatible to CBET. However, in many training programmes this was not reflected in the curriculum.</i>
		R2	4	<i>Consultants may recommend for change of the</i>

				education system if the consultancy work is in the education sector. If Consultants work with local experts who cannot cope because of their training orientation, both Consultants and local experts may recommend for CBET.
		R3	2	Have clue of solution needed, sell/research the idea
		R4	High	There is tendency of bringing “foreign” CBET to TZ, which might not necessarily be easy to be delivered in TZ.
		R5	2	Same in contents
		R6	3	International consultants from countries where CBET is widely practiced including the Netherlands, Canada, South Africa, Australia, New Zealand and even Britain have greatly influenced the introduction of CBET Development partners from the Countries have extensively funded CBET projects.
		R7	4	Had minimal influence in the initiation of CBET in Tanzania.
3.	Global technologies	R1	3	Technology has reduced demand for human power in most economic and service sectors. Sectors that used to employ less skilled workers to perform routine/manual work are now using machinery/ computers to carry out the tasks. Skilled people are in most cases required to operate the machinery or carry out such tasks that cannot be done by machines.
		R2	1	In the globalized world technology develops fast. This requires qualified and competent professionals in the various sectors. With improved technology, Tanzania does not have to trade her raw materials but process them or become producers of various goods. Both processing and production of goods require skills, which are guaranteed through CBET.
		R3	4	Require specialised knowledge + skills
		R4	Very high	Advancement of global technologies has a great impact on CBET in TZ – because TZ does not cope with the fast growing technologies.
		R5	3	Transfer of technology
		R6	2	Global Technologies have resulted in emerging competitiveness in product and service delivery to the global market place. The desire to increase the country’s competitiveness requires training manpower through CBET to cope with rapidly changing technology and apply the same to gain competitive advantages in production, distribution and sales.
		R7	2	This has a close link with No. 1 above: advances in technologies in manufacturing industry, processing and even in health care service delivery to mention just few, call for graduates who are highly competent. Production of competent graduates depends on various factors: type of curricula, learning processes and level of exposure to appropriate technology linked to world of work.
4.	Labour mobility	R1	1	With the current developments in economic integration

				<i>among East and South African countries, people can now easily cross from country to other for work. In such a situation, graduates are required to compete both within the country and for jobs outside the country.</i>
		R2	3	<i>Labour market determines the provision of education. Those with competences are more likely to get jobs anywhere and those who are not will lose their jobs as competent people from other countries will prove that they qualify more for their posts. Innovative and relevant training programmes are a must.</i>
		R3	3	<i>It is the right qualification that matters – ability to do</i>
		R4	Very high	<i>Movement of professionals has a great influence on the need of delivering CBET properly – otherwise Tanzanians will be thrown out of the game.</i>
		R5	2	<i>Globalisation trend</i>
		R6	1	<i>The emerging regional integration in East Africa entails free movement of labour among member states: A country whose people will provide less competent is likely to suffer from higher levels of unemployment. Jobs will be filled by competent people from member states. CBET is therefore intended to develop the desired competence that will respond quickly to labour market demands of member states.</i>
		R7	3	<i>The country has been experiencing both geographical and occupational labour mobility. The current labour market requires graduates with multiple skills to make them competitive and the traditional curricula had no practical solutions to the labour market challenges. Competent graduates are able to compete internally and internationally.</i>
5.	Maximization of profit	R5	4	<i>Fully utilisation of labour power</i>
6.	Donor/Development Partners priorities	R5	4	-
		R7	5	<i>There was little support from development partners directed towards establishment of CBET in Tanzania</i>

Internal factors				
1.	Role of regulatory/ professional bodies	R1	2	<i>One of the statutory roles of regulatory bodies is to advise the government on the better ways the government can apply to improve provision of services. On the same line, NACTE, after assessing the education and training trends in the country and globally, advocated adoption of CBET as a means of steering technical education through the current economic system.</i>
		R2	4	<i>These regulate and influence the type of education to be adopted by a government.</i>
		R3	2	<i>Sought ways of implementing the law</i>
		R4	Average	-
		R5	5	-
		R6	2	<i>The regulatory body for technical education and training has adopted CBET system. Similarly the regulations body for vocational education and training is CBET</i>

				<i>based professional bodies for accountants and auditors and that for procurement and supplies professionals and technicians are swiftly making their curricula competence based.</i>
		R7	3	<i>Some regulatory and/or professional bodies were involved in advocating for educational changes in their respective professions and sectors.</i>
2.	Reactions to type of secondary education	R1	1	<i>Looking at the economic growth and growth in service and production sectors in the country, one should easily conclude that graduates from secondary school and college system cannot all be absorbed by the sectors. Expansion of primary and secondary education system in the country has produced many graduates who are age wise very young, but also who cannot employ themselves. In view of the above, there is a need of adopting an education system that could enable graduates at different levels of education system to be able to engage him/her in a productive occupation of choice. In such circumstances CBET stands a better option.</i>
		R2	6	<i>Depending on the system of education at the lower levels, CBET ought to start at the lowest level.</i>
		R3	8	<i>Confusion: vocationalisation v/s academic</i>
		R4	Very high	<i>Current secondary education being KBET resulting into unsmooth progression</i>
		R5	10	-
		R6	6	<i>The public is deeply concerned that graduates from secondary schools do not have technical and vocational skills required for employment in formal and informal sectors. They complain that school learning is not linked to work place requirements. The public would like CBET in secondary education.</i>
		R7	6	<i>Tertiary education, which is to feed the labour market with competent graduates, had suffered from low quality secondary education and thus the need to review the teaching and learning processes was obvious.</i>
3.	Recent political traditions developments (trade liberalisation etc.)	R1	6	<i>Before 1990, economic productive sectors were owned by the government. With the structural adjustment programmes, trade was liberalised and hence giving the private sector an upper hand in economic production and provision of services. As a rule, private entrepreneurs would only employ a person who can immediately perform after employment. This commands for trainers to produce people who are employable.</i>
		R2	5	<i>Recent political developments have opened up the borders for other countries to come and invest/work/trade. This stiffens the competition and calls for labour market oriented training to increase people's capabilities to compete.</i>
		R3	7	<i>Self-reliance was for CBET – now vision changed</i>
		R4	High	-

		R5	6	-
		R6	5	<i>Liberalisation of trade and the economy at large opened doors for development of the private sector. This encouraged entrepreneurial activity and self employment. CBET provides opportunities for entrepreneurship development and private investments.</i>
		R7	9	<i>Closely related with item No. 4, there was little political pressure in the initiation of CBET.</i>
4.	Political traditions (i.e. educational system reforms)	R1	5	<i>Traditionally, the country followed education for self-reliance as a motto to steering education planning and implementation. Today, the motto is no longer considered but, education for all is the focus/ vision. In education for all, learner's engagement after graduation is not considered in educational planning and implementation. Sequel to this is having many graduates who cannot engage themselves in productive activities except waiting for employment in formal sectors.</i>
		R2	10	<i>Same as above (S/N. 3).</i>
		R3	9	<i>Emphasis on study/education for employment v/s self-employment</i>
		R4	Average	<i>Lack of seriousness by politicians resulting into less support of CBET</i>
		R5	7	-
		R6	9	<i>Politicians at different levels are concerned with high levels of unemployment in their constituencies, districts and villages. They feel that CBET would facilitate employability of graduates in public and private sectors.</i>
		R7	8	<i>Practice at the political platform had little emphasis on the initiation of CBET.</i>
5.	Role of unions (i.e. trade)	R1	9	<i>Apart from advocating for good working conditions, trade unions have the role of advocating for a training system that could increase employability of graduates. However, this has not been the case in Tanzanians' Trade Unions.</i>
		R2	7	<i>No idea</i>
		R3	10	<i>More on benefits at work not on training.</i>
		R4	Average	-
		R5	11	-
		R6	10	<i>Trade Unions are concerned with the low level of remuneration by employers to their members. They would like to see (through CBET more production, more profits arising from employees' competence at workplaces. This would strengthen their collective bargaining position with employers for better working conditions and better pay.</i>

		R7	7	<i>Some unions and pressure groups were involved in advocating for changes in educational system.</i>
6.	Role of Employer groups	R1	8	<i>Employer groups are key in informing the training institutions about the kinds of skills and knowledge that are required. But also they provide feedback on the quality trainers from institutions with regard to employability factors/ criteria.</i>
		R2	3	<i>Employers have requirements that have to be considered by trainers. Employer groups may influence trainers to adopt CBET, which strives to address employer needs in the curriculum.</i>
		R3	5	<i>Look for those able to perform in the labour market</i>
		R4	High	<i>Demand for better skills from graduates by employers</i>
		R5	4	-
		R6	3	<i>Employing Organizations are concerned that job seekers have achieved competence required to perform jobs in relevant occupation. Those prospective employees have developed independence, responsibility working in teams and sharing information as prescribed in CBET.</i>
		R7	2	<i>The growth of the private sector and the incoming of foreign employers/investors had tremendous impact on the employability of local graduates. Changing from the tradition of recruiting and compensating workers using academic credentials to skills and ability in performance.</i>
7.	Technology	R1	4	<i>Technological changes demand people who are highly skilled and knowledgeable to able to operate the machinery. Technology has also reduced the demand for less skilled workers and hence making employment dwindle.</i>
		R2	2	<i>Changing technology calls for improvement in training. CBET allows trainers to focus their training on changes in the labour market and development of technologies through curriculum reviews.</i>
		R3	4	<i>Change faster – influence training theory/practical.</i>
		R4	Very high	<i>In the presence of CBET, technology needs also to be advancing fast, which is not the case.</i>
		R5	2	-
		R6	4	<i>Rapid changes in technology calls for graduates to be exposed to competence based training in order to cope with technological changes in relevant occupational sectors. Through CBET graduates can adopt, adopt and modify new technologies for development.</i>
		R7	4	<i>Technological changes had an impact on the confidence and employability of graduates, affecting performance and productivity. Compelled review of educational approaches</i>
8.	Political commitment by the government	R1	6	-
		R2	8	<i>The government may have policies that influence the adoption of CBET.</i>

		R3	1	<i>Policy sounded it first; then Act/Law</i>
		R4	Very high	<i>It seems the Govt. is not prepared for CBET – low facilitation of CBET delivery.</i>
		R5	8	-
		R6	7	<i>In Tanzania the shift from KBET to CBET system in largely influenced by Development Vision 2025, which advocates the country to be a nation with high levels of education at all levels which produces the quality and quantity of people sufficiently equipped with requisite, knowledge and skills to meet challenges of development at local and international levels. Adopting CBET system is hoped to bring the desired vision.</i>
		R7	5	<i>Some of the bureaucrats and technocrats in the public service were caught unaware with the changes in the labour market. There was sort of feet-dragging in some sectors of the Government to support the initiation of CBET.</i>
9.	Labour markets	R1	3	<i>Labour market has dwindled, thus causing for many graduates to compete for the few available. In view of this, for a person to be employed, he/she must demonstrate high ability to apply knowledge and skills in a given occupation.</i>
		R2	1	<i>Competition in the labour market calls for CBET whose graduates are oriented to serve the requirements of the labour market.</i>
		R3	3	<i>Require competent workers.</i>
		R4	High	<i>Slow as the technology advancement may be the labour markets demand for well-trained personnel - may not be available due to lack of good CBET environment.</i>
		R5	3	-
		R6	1	<i>Labour markets are concerned with employing people who are skilled and can demonstrate appropriate attitudes and values in workplaces. They are concerned with people who can cope with technological changes and who are employable with multiple competences.</i>
		R7	1	<i>In the eve of trade liberalisation, market economy and the influx of foreign investors called for highly competent workforce. The educational thinking and practice needed to respond to labour market demands.</i>
10.	Culture	R1	7	<i>Culture is important in moulding people to behave the way they do. Some culture perpetuate the spirit of work, competition, or learning, while some perpetuate sports spirit and others business engagement. In any case culture shape peoples' production behaviour, which is very key in designing a training programme.</i>
		R2	9	<i>No idea</i>
		R3	6	<i>Traditional education is CBET – for girls & boys</i>
		R4	High	<i>Resistance to change – deliverers of CBET may not be “believers” of CBET.</i>
		R5	9	-

		R6	8	<i>Tanzania aspires to develop its youths to higher and wider levels of scientific knowledge skills and understanding for socio-economic development. CBET is expected to make institutions produce people who are competent in their workplaces and are able to meet challenges of development.</i>
		R7	10	<i>Culturally there was little pressure directed towards changing the educational system and practices.</i>
11.	Production structure	R1	10	<i>Production structure of any country determines the kind of training. In countries where small scale production is the main driver of the economy then emphasis is put on reinforcing competences that will increase quality and quantity in the respective sector. In areas where mining is the biggest economic driver, emphasis is put on mining.</i>
12.	Neo-colonialism	R5	1	<i>Developed countries influencing socio-cultural and economic activities of the developing countries</i>

-END-

THANK YOU FOR YOUR SUPPORT

Appendix II Introduction letter for interview (MoEVT)

National Council for Technical Education (NACTE),
Plot No. 719/1/4,
Mikocheni Light Industrial Area,
P. O. Box 7109,
Dar-es-Salaam,
Tanzania.
27th August, 2012

Permanent Secretary,
Ministry of Education and Vocational Training (MoEVT),
Kivukoni Front,
P. O. Box 9121,
Dar es Salaam,
Tanzania.

Dear Sir/Madam,

SUBJECT: REQUEST FOR TWO SENIOR OFFICERS TO PARTICIPATE IN AN INTERVIEW IN SUPPORT OF 'PHD DEGREE' STUDY

Please refer to the above subject.

I am an employee of the National Council for Technical Education (NACTE) in Tanzania, currently following a Doctor of Philosophy in Education course at the Institute of Education, University of London, in the United Kingdom.

In order to complete my PhD degree study I need to collect some information and carry-out empirical work related to my thesis which concerns competence-based education and training (CBET) in tertiary non-University education and training sector in Tanzania.

My thesis is entitled: *"The emerging Tanzanian concept of competence: conditions for successful implementation and future development"*.

Being one of the key CBET stakeholders in the country, I have selected your Ministry to participate in the study. Kindly, appoint two (02) senior officers from your Ministry who are aware of CBET issues and activities, preferably those supervising or working with ordinary diploma graduates/employees from our technical institutions who followed CBET system to participate in the interview. I request that I contact the appointed officers and plan with them regarding when I should come for the interview, which I have tentatively planned to be held in September, 2012.

Kindly inform the officers of their appointment, and give them my contacts (mobile: 0713237762, e-mail: adoruta@hotmail.com) to enable me to contact them directly.

I will be grateful if the senior officers are appointed early and notified of the planned interview.

Please let me know if you would like to obtain details of the findings once the thesis is approved by the University.

I thank you very much for your valuable support.

Yours sincerely,



Adolf Babiligi Rutayuga

Appendix III Interview guide to supervisors of mining technician employees

INSTITUTE OF EDUCATION, UNIVERSITY OF LONDON

MPhil/PhD IN EDUCATION

INTERVIEW IN SUPPORT OF A STUDY ON “THE EMERGING TANZANIAN CONCEPT OF COMPETENCE: CONDITIONS FOR SUCCESSFUL IMPLEMENTATION AND FUTURE DEVELOPMENT”

**INTERVIEW TO SUPERVISORS OF MINING ENGINEERING
CBET TECHNICIAN EMPLOYEES**

1.0 INTRODUCTION

This study is in support of a doctoral research entitled “*The emerging Tanzanian concept of competence: conditions for successful implementation and future development*” The major aim of this study is to explore competence-based education and training (CBET) manifestations and implications globally and their influences on the Tanzanian CBET and the concept of competence developed in this national context. The study is informed by background literatures on CBET manifestations and implications globally and its influences on the Tanzanian CBET and the notion of competence. This empirical work is targeted at collecting the views of supervisors of mining engineering CBET technician employees about the competences they exhibit while at work and how these competences are valued by respective employers. The findings from the empirical work will be used to study and analyse the perceptions of the key CBET stakeholders in order to extend our understanding on the functioning of the Tanzanian CBET against the existing assumptions of the competence model in an attempt to predict its performance in relation to future need.

I will be grateful for dedicating your time to attend this interview, answer the questions and provide your views in relation to this study/research. Your views will contribute in identifying the perceptions of the Tanzanian key CBET stakeholders and will enable me to proceed with the development of a theoretical model for the Tanzanian CBET trajectory and notion of competence to inform CBET practices in technical education and training institutions and in other sectors of the economy in the country and beyond. I assure you that your views will be treated confidential and used only for the purposes of the current research. I thank you in advance for participating in this study.

2.0 BACKGROUND INFORMATION

- 2.1 Date of interview:
- 2.2 Interviewee's Gender (F/M):
- 2.3 Interviewee's Job title/position:
- 2.4 Length of Interviewee's current or related work experience (in years):
- 2.5 Name of the Organisation/Institution/Firm:
- 2.6 Location:
- 2.7 Website:
- 2.8 Status of the organisation/firm: *Please Tick [✓]*.
1 [] Central/Local Government 2 [] Parastatal/Government Agency 3 [] Private local Company

- 4 [] NGO-local 5 [] Private foreign cum international 6 [] NGO-foreign cum international
 7 [] Research institution 8 [] Executive agency (Governmental)
 9 [] Other (*Please specify*)

2.9 Type of business or agency:

2.10 Estimated number of employees in your Organisation/Institution/Firm (*Please tick [✓]*):
 1 [] Under 50. 2 [] 50 – 200. 3 [] Under 201 – 500. 4 [] Above 500.

3.0 MINING ENGINEERING CBET TECHNICIAN EMPLOYEES' ATTRIBUTES IN THE WORKPLACE (*Please provided views*)

3.1 What observable and measureable competences (behaviours, knowledge, skills, and abilities) does your firm require to be possessed by a mining engineering technician employee in your firm?

3.2 What duties/tasks are typically performed by this employee at work in your firm?

3.3 What skills (core competences) do you value most in all CBET technician employees?

3.4 What future skills (core competences) do you anticipate needing in your CBET technician graduate employees?

3.5 What difficulties does your firm/business experience in relation to CBET technician employees?

3.6 What are technical institutions producing Mining Engineering technicians doing well?

3.7 Where could technical institutions producing Mining Engineering CBET technicians do better?

3.8 What new programs, if any, should technical institutions producing CBET technicians consider?

3.9 What opportunities are there for technical institutions producing CBET technicians to work closer with industry?

3.10 How do CBET technician employees manage resources? (*e.g. identifies, organises, plans, and allocates resources*).

3.11 Which interpersonal skills are demonstrated by CBET technician employees at work? (*e.g. teamwork, communication*).

3.12 How do CBET technician employees work with technology/a variety of technologies?

3.13 How are basic skills (reads, writes, performs arithmetic and mathematical operations, listens and speaks) applied, if possessed, by CBET technician employees at work?

3.14 How are thinking skills (thinks creatively, makes decisions, solves problems, visualises, knows how to learn, and reason) practiced by CBET technician employees?

3.15 Which personal qualities are displayed by CBET technician employees? (*e.g. displays responsibility, self-esteem, sociability, self-management and integrity, honesty, and need for continual learning to be up-to-date*).

3.16 a) How satisfied are you with the practical competence and understanding of the workplace displayed by CBET technician employees employed in this firm? (*e.g. ability to identify, analyse and solve technical and design problems*).

- b) If you were to single out the most important quality or attribute in terms of practical competence and understanding of the workplace, what would this be?
 - c) Please briefly describe or give an example to illustrate how this attribute typically manifests itself in the work of CBET technician employees employed in this firm.
- 3.17
- a) Please indicate how satisfied you are with the knowledge and intellectual ability displayed by CBET technician employees employed in this firm (*e.g. application of fundamental knowledge along with current techniques and skills to analyse data, interpret and apply results to improve processes*).
 - b) Please give what you consider to be the single most important quality or attribute in terms of the knowledge and intellectual ability required for a CBET technician employee to function effectively in the workplace.
 - c) Please briefly describe or give an example to illustrate how this attribute typically manifests itself in the work engagement of CBET technician employees employed in this firm.
- 3.18
- a) Please indicate how satisfied you are with the workplace skills of CBET technician employees in this firm and their ability to apply knowledge (*e.g. importance of quality, timeline, and a continuous improvement in the field*).
 - b) In terms of workplace skills and applied knowledge, please give what you consider to be the single most important quality or attribute which CBET technician employees need to demonstrate in the work environment.
- 3.19
- Given that workplace practices change from time to time, please indicate the extent to which you think our public/private technical institutions equip graduates to adapt effectively to change (*e.g. balance between knowledge and skills to engage effectively with the demands of the workplace*).
- 3.20
- Please indicate the extent to which you think our public/private technical institutions equip graduates to contribute to the building of social cohesion.
- 3.21
- a) In summary, please give your assessment of Mining Engineering technician employees (i.e. their strength and weaknesses)?
 - b) If one thing must be done by our technical institutions to improve on the quality of our Mining Engineering technician graduates, what should this be?

-----END-----

THANK YOU FOR YOUR SUPPORT

Appendix IV Sample transcribed interview from Tanzania CBET ‘pioneer’

INTERVIEW NUMBER ONE (R01)

Interviewer code: I01

Interviewee code: R01

Interview date: 05/10/2012

Interview time: 57 Minutes (08.00 – 08.57am)

I01: Mr. R01, thank you for your time; foremost, I would like to thank you for having agreed to take part in my study....

R01: You are Welcome!

I01: Thank you so much. As we discussed in the introduction, I'm doing a PhD in Education at the Institute of Education University of London, and my interest is looking at the emergence of competence, competence-based education and training in Tanzania and conditions for its successful implementation first locally and then globally. I have a series of questions which I'll put before you for discussion, and I'll kindly request you to give your opinion, perspectives, how you see things happening surroundings competence-based education and training in Tanzania. We have a couple of questions as you can see on my paper. There are about nine (9) questions but I would also like to point out that there may be follow-up questions depending on the responses I'll be getting from you. And the first question wants to address your interest, because I know you are one of the pioneers of CBET in the country. I remember when it started then you were working in the Ministry of Education and Vocation Training, and you were among the people who pioneered the introduction of competence-based education and training in the country. So my question is why did you become interested in the concept of competence or rather competence-based education and training?

R01: Thank you I01.

Firstly, I would like to speak about, to speak about the background of CBET, my knowing, of becoming interested in CBET. I first came to learn about CBET way back in 1988, 80, in the 80s. Then I was a desk officer in the Ministry of Education, and I attended a seminar, workshop on modules; training in modules and that's where I started to learn the advantages of delivering training programmes in terms of modules. The programmes were trained in modules, and in portions which are self-sustained and deliverance of programmes to the students, one finishes one module, takes another module, another module, another module, and this where I learnt the advantages of about this system of training, training in modules, one of the advantages is I intended to learn in the seminar or workshop that it is, it was a system which was very flexible while you can learn part of the training per modules, go to work, come back, and go with the other, another level of modules until you complete your studies.

And at that time, I know technical education was facing a lot of problems, and especially training those who were already in the field, who were already employed, who could not come back into the school systems. How could you access these people and give them more training, of better production in their areas of work. And when I attended that seminar, it's when I learnt that ooh these are possible; very good for such people, very appropriate for such people, and by then I was interested in trying to feedback into the school system those who are already working in the industry. So that is when I, where I became interested came to learn about modular approach; and of course if you talk of the modular approach you are talking about the competence approach, competence-based approach, CBET system approach.

I01: Thank you so much; maybe in line with this question and your explanation, were you aware of the challenges which were facing, mainly challenges which were facing the industries, because I understand

when competence-based education and training was introduced there was an outcry from the industry on the performance of the graduates from the institutions. Was that also linked to your interest in competence-based education and training or...?

R01: No, that came later, that came later but the beginning my main interest was to be able to bring back into the school system, those people who were already employed and interested so that they could acquire more skills. We didn't have such; I mean a system where people working in the industry could go back into school system and get some more skills. Yah, there were some sort of apprenticeship training but were not sufficient to cater for the people working in the industry, and I was working by then seeing ways we could introduce, get back the people into the school system; and remember by then I was one of the people who introduced the exams, feedback exams for the people working in the industry, entrance exams into the colleges; all these are efforts to get people back into the school system. But when I came to learn about the competence, competence-based system I saw that was very appropriate because it was not easy to take somebody who is working in the industry, taking him back to school, he has a family so you put him into school for three years, complete three years while having a family to take care of, it might be, it could be very difficult. So if you could learn in modules, in small, small portions; learn one module get those back to work, learn another one...

I01: flexibility?.....

R01: Yah, there is the flexibility; I saw that was the most appropriate approach to train especially in skill, skills training. That was the best way to go, so that I got so much interested in the system; and from that year on I have been trying to do everything I could to make sure that we introduce competence-based education and training in Tanzania; and I am glad that the system is currently in Tanzania, and is, it's working; with challenges but it is working.

I01: And may be more on this because there is an aspect of, because you said these graduates who are working, you wanted to send them back to school, does it mean that there was no progression route for these people?

R01: Absolutely, there wasn't any vertical progression route for these people. We didn't have any approach; I mean any formal vertical progression route for these people. You talked about the satisfaction of the industry for graduates of our institutions in the industry at that time. I said that came later. It's something; it's an aspect which came later. It is true that at a later stage we went further into seeing the competence of the graduates which were coming from our technical institutions then, and we found that it was the graduates capacity was different from one to another one depending on how were trained in those institutions. The same curriculum but due to different approach in training in the traditional method of training you found that some trained in a different way, students in different institutions were more capable of doing things, were more hands-on than the others in another institutions. Despite one curriculum the mode of provision was different because the provision of theory in those institutions, obtained from those institutions, so you found that the graduates were not at the same level when it comes to practical delivery, to practical training. Some of them received more practical training compared to others in different institutions, so didn't receive the same level of practical training. So at the end of the programme, at the end they did exams and they all passed before they came into the industry, some of them had more practical experience than others. So that is one of an area where we thought that may be CBET and modules implemented, prepared a similar module prepared and delivered in different institutions could give probably results that are similar rather than using the traditional syllabus, the traditional syllabus and curriculum where the institutions choose themselves what to do, because nothing is prescribed in their curriculum of what is supposed to be done in terms of competence. Now with competence-based everything is prescribed in the module of what students should be able to perform in order to qualify in that module. So, I came to think that the competence methods, the competence-based education and training approach could give graduates the same qualifications when delivered in different institutions. But that came later.

- I01:** Thank you so much. Thank you for the elaboration.....
- R01:** Sure?
- I01:** Really, that's why I had a series of questions to probe this one. The second one is based on, what were the main influences of your thinking because you said you were in a workshop; you heard of how others are doing in terms of module delivery; where there any other main influences to think of CBET as the best approach?
- R01:** Other influences included my working with a German colleague in Arusha. I'm not sure in Arusha we were teaching competence, it was not very competence, it was rather allied to competence training, so that also influenced me. In 1981 and 1982 I was with my German colleague in Arusha and the training was sort of, not named as competence-based but it was similar to competence-based, this also influenced me...when I participated in this workshop that also influenced my thinking towards competence-based. The training was more practical than theoretical. We delivered theoretical training but later followed it into the workshop, there later was more hands-on, than we did it in class.
- I01:** Is there any maybe the interest that had driven your thinking being influenced maybe by the policy in the country, or CBET policy or politics or employers, employers' wishes...?
- R01:** Unfortunately, at that material time we didn't have a policy or CBET policy in the country. In 1988 we didn't have a policy in place, we just came on the world, we had a lot of involvement with them, and there on we had a lot of involvement with UNESCO workshops and seminars in the country on CBET. And after that's when we said look I think we need to document these issues and we started to create awareness to some core group of CBET trainers and administrators in the country, and we started thinking that we should have a policy in TVET, TVET policy and we started formulating that policy way-back in 1989 we started the job of trying to draw a TVET policy; but all the time we were not successful, we were not successful due to some reason. We didn't have expertise of how to prepare an appropriate policy. And we didn't have that policy in the Ministry of Education until 1990 when a new Ministry was established in 1990; we were then transferred to the Ministry of Science, Technology and Higher Education we continued with the process of formulating a policy until 1996 where the first Technical Education and Training Policy was in place. And in that policy that is where we said our training in TVET, in technical education and training should be competence-based. The first policy its where we, it was clearly stipulated in the government documents that the training in TVET would be competence-based starting from vocational level to technical level, that should be competence-based education and training. So, after that, after having a policy which clearly stipulated that our training should be competence-based education and training, we then,...in that policy there were a lot of issues, a lot of reforms which then we said with competence-based education and training we need an appropriate regulatory authority. In that policy also it was clearly stipulated that we should have a regulatory body which will look about the quality of training in our technical institutions. Before that the quality organ was the Board of Ministers, and we in the Ministry and the Department were both managers as well as regulators we found that it is conflict of interest, we thought that it would be a good thing to have an autonomous body which will then regulate TVET sub-sector especially when we said that we want now to deliver competence-based training. Competence-based training is more involving, we need a really technical team which was so difficult to have a good technical team which was going to monitor the competence-based education and training implementation.
- I01:** Thank you so much. The next question is, because looking back at what you have been explaining; looking back at the history, now that you had a workshop which gave you a hint on the best approach on hands-on training and your relationship with a German colleague, and on the way you were conducting training in Arusha before TVET policy formulation, what did you produce, when you think in that context what can you say you produced in a CBET direction?

- R01:** I can say we had TVET in Tanzania but it was not well organized, what we were trying to organize is the TVET sector in an appropriate manner so that we have a structures in place, TVET structures in place, we have a policy in place, and then we have appropriate TVET structures in place. And I think the first thing we did was to have a policy, and then from there then we started to put CBET structures, to implement the policy. So I can say in a way we are now well organized compared to the time before. This is not part of the discussion, but I think you remember before the 90s we had a lot of problems with students in our technical institutions. I remember there was a case when the Minister was taken to court by students at Dar es Salaam Technical College by then complaining about the certification problem, complaining about the level of their training. We were telling them that they were training to the level of first degree but the certificate was quite questionable; anybody would question the format. We weren't quite organised.
- I01:** And the fourth question may be a problem or question looking at how CBET was developed and is implemented do you see it addressing your previous interest in CBET?
- R01:** Ooh yes, to a bigger extent my concerns have been addressed. Actually a number of them, a bigger portion have been addressed. First of all access; access in TVET has been improved. Anybody wishing to access TVET is now able to access it depending on what level would want to get into the TVET system. Before that we didn't have that ...
- I01:** policy....
- R01:** Yah, it wasn't there. We now have a TVET;...what should I say, TVET....structure...
- I01:** TEVT structure favouring progression and access...?
- R01:** We sort of have TVET qualifications framework where somebody can get into the system, TVET system and get skills he wishes from the lower levels to highest level. Of course in TVET we still have challenges in the sense that we still have people in the industry who cannot access the skills training because they cannot leave the jobs to get into the schools, into the technical training institutions to get the skills. So we need to go to them, into the industry so that they improve their skills. We did not have that system, but that is something which came-up. There are those who can leave their workplaces to go to the institutions get the skills but there are others who cannot leave the industries, the workplaces to go to the institutions, so we need to do something to get to them to give them skills where they are working. And I think that can be the possible thing if, within the CBET system it is possible, we plan ourselves and get the rights to extend training programmes into the industry, short programmes in the industries and workplaces, and can extend classes into the industries; and the industries if we work together then we can know when we should plan, what time we can access those people who like to get some more skills training, fix a timetable so that we can go to them so that helped by the industry can get some skills training.

So that is the next step, majority of the people who are working in the industry can now access TVET which was not so in the previous time, before we had improved CBET in the county. Of course we have challenges in implementing CBET. We have big challenges. First, okay, of course in most cases we are through part of it, but we are still facing the challenges. Preparing the CBET curriculum means special obstacles, we need qualified people to prepare CBET curriculum. Not only the experts but also we need the cooperation with the industry. We need the experts from the training institutions, and we need people from the industry, willing people from the industry to take part in the curriculum preparation. Then after preparing the curriculum we need qualified people to deliver the CBET programme in our technical institutions. But not only that, it is expensive. Delivering a CBET curriculum is more expensive than delivering an ordinary, traditional or skills training programme. CBET programme is more expensive to run; and that I think we will have many challenges on that for quite some time. And due to that and it comes to find that private investors are getting difficulty to invest in TVET because of the need for facilities. The sector is regulated, and since it is regulated they require to meet minimum requirements, minimums requirements to be in place before a TVET institution is established. And therefore that requirement makes a lot of investors not capable of

investing in TVET education. There are minimum standards in infrastructure, minimum standards in equipment, and minimum standards in teaching, in staff and others; and minimum standards of materials; that is very expensive to the private sector. Of course the government as the public sector as well, it is very expensive.

- I01:** Thank you very much!
You mentioned about the qualified teachers to implement the curriculum. What do you mean by qualified teachers, do you mean in how CBET curriculum is delivered or qualified in the sense that their level of training...?
- R01:** Ooh, okay ...CBET starts from the lower level to higher levels; so you need teachers expressed at different levels of training, academic training at different levels. But, notwithstanding the different academic levels existing in our technical institutions, you need also to re-train all the teachers to have a different outlook of the training, because they are used to the traditional training. Training approach is quite different in CBET. So you cannot say that I have graduates who are going to deliver CBET. You need to re-train them on how to deliver CBET programme which is different from traditional programme to deliver. So we have that problem. Of course we also have a problem with the number of existing qualified staff; and notwithstanding their knowledge of CBET, we have also a shortage of staff in our CBET institutions. More serious is the understanding of CBET concept. We need to re-train nearly all the teachers in our CBET institutions to acquire CBET methods of training approach rather than the traditional, because you can have that kind of a curriculum, and you can have the good materials there, you can have the facilities there, but if the teacher is not aware of how to deliver this curriculum we can think of this as a waste of time.
- I01:** And what are your views of about the students themselves, because they also start from, they come from the system which is not competence-based; then at a later stage it's when they join competence-based education and training; what are your now views about this?
- R01:** Ooh, that is another challenge, because they come from the system, they come from secondary schools where the approach, there is traditional approach and now they get into our CBET institutions, they are introduced to CBET, a new approach. But the student is not a big problem because students normally can acclimatize themselves with different situation depending on how the teachers can introduce the concepts to them. But again if they report to a teacher who is not conversant with that approach they can confuse. But if they get an appropriate teacher, qualified teacher on CBET definitely the change for students is fast to accommodate that; they adapt, they can adapt different styles, they are younger guys and they can adapt to the CBET system, as long as the teachers available are qualified and capable.
- I01:** And, in line with this question which we have been discussing, what is the future CBET vision, the way you see it?
- R01:** Well the future is good for CBET because everybody has in principle accepted CBET that is a way to solve our problems in skill provision in Tanzania; and that is very important. All the stakeholders accept; the industry, the institutions, the students who accepted that CBET is a way for provision of skills in Tanzania. That is a very good step. The next step which is a challenge is implementation of the CBET in accordance with appropriate way of implementing CBET. And that is to have the appropriate facilities in place; we have appropriate qualified teachers in place; and to have of course financial resources to run the programmes. Those are the challenges, but I think the future is good because CBET is accepted by all the stakeholders in the country, nobody has said no to the CBET proposal.
- I01:** The next question is a; now of course you have highlighted some of the issues which are important to be addressed, but may be to get to know it better; what do you think are the strengths of the Tanzanian CBET approach?

- R01:** Strengths of the Tanzanian CBET system first of all the strength is to have TVET policy in place which is clear; we have regulatory structures in place which are competent, conversant, we have technical institutions which have accepted,... and of course we shouldn't forget the industry, the industry has also accepted CBET approach. With all those, those are the main consumers of skills, graduates, I mean because these are the dealers, are the stakeholders in CBET in Tanzania. At least all these major stakeholders have accepted the concept, ready to cooperate. That's the big step which we have.
- I01:** Thank you very much. What could be the weaknesses of the Tanzanian CBET approach?
- R01:** The Tanzanian CBET approach, the main weakness is, I could say funding; funding. Funds available for that process are very reserved. Yah, we call it a weakness, or a challenge; yah call it challenge, challenge, or weakness. Funding CBET is expensive, and neither the private sector nor the Government can appropriately fund CBET. I know this is a challenge not only for Tanzania, but for Tanzania is more pronounced. And another thing, and that's a big challenge..., CBET is very involving.
- I01:** Can you give me some examples on how involving is CBET from your perspective?
- R01:** How involving? That is doable statement. In this then, I don't know how many countries in the world are completely delivering CBET how it should be. And the reason here is for CBET is very involving. Involving in terms of finance, involving in terms of human resources, involving in terms of, you know, in terms of facilities, and everything. Because, if you go to ideal CBET; everybody is on the way of completing a module. If you get students that attend programme the same year, it is difficult for them, in CBET; you wouldn't expect them to finish the same modules in the same time. Now, if you take it that way, you find that if you had a student, may be some will finish earlier before may be one year, and others might be after two years. Now if you take the way it is supposed to be from reality, the way it is supposed to be run, this will be very expensive; and some students may take two years, some six months, and who is going to pay for those who are going to take two years to finish such a module?
- I01:** In fact within the weaknesses, I remember in the introduction we discussed about the linkage between the providers institutions and the industry, employers. We were saying of the network. How do you see the network between the industry and providers institutions as far as CBET is concerned?
- R01:** Yah, there have been some improvements especially now; and apparently the project in which I'm working on right now, I'm working in right now is involved in that. The project, this project in which I'm the Director we discovered that gap between the institutions and the industry; and we found that that was one of the cause why some of the graduates were not performing and completing their studies. The lack of coordination, or the lack of link, between the training and industry. So this project was establish to narrow the gap, to find out, to study how to narrow the gap between the trainers and the industry and we have been able to try to bring them together. Initially it was difficult for the trainers to sit together with industry but now we have been able to narrow the gap. The industry is now willing to participate in training. You know industry people like to, you know they want to produce, they don't want to waste their time doing training. That is where they are competent perhaps. And the trainers think they know what the industry needs. It's not true. Mostly they don't, because what they knew last year this year could be different. And the trainers, what they used to do is that, yah, they do survey; labour market surveys. They take questionnaires to the industry so that they know what they want. Look, the questionnaires land into hands of administrators, not the people in the production centres, and they just work that quickly so that they return the questionnaires that they don't want to waste their production process. So, you get the information but not valid; that is wrong information. You just get the information to fulfill the reply; you will never be given real information. Now when they know that their support is facilitating the process, and that they have a member of panel in curriculum development in the institution, so definitely makes sure that no that thing there is missing; we need to facilitate that and that. Now that, fortunately the industries have started talking to the institutions, I hope this will narrow the gap between the trainers and the providers and the consumers.

- I01:** Thank you so much. In your opinion, what opportunities are there for technical institutions producing CBET graduates to work closer with the industry? In line with what you have said of the project which you are currently directing, do you see opportunities for the institutions to work closer with the industries?
- R01:** Very much so. If what you seeing now, the trend you are seeing now, remember in the project we have regulatory authorities taking part, of course we have only thirteen institutions, the pilot institutions in the project, but the trend by the industry, I am sure will spill-over to other institutions. I think the industry now will have an opportunity to know what is being delivered in the training institutions. And I am sure the institutions in the project will have the spill-over effect to the other institutions around. So there is no reason why the person from the industry will complain that the graduate is not capable. And in the project we have targeted three sectors of economy which are the major employers in the country. We have targeted the agricultural sectors, the tourism sector and mining sector. These three sectors touch nearly every field, they touch tourism, they touch mechanical engineering, they touch civil engineering, electrical engineering, mining engineering, agricultural engineering, agriculture, or nearly all fields are touched in the three sectors. So, you find that graduates from different sectors I am sure will now be accepted by the industry, because the industry knows what is being delivered in the training institutions, and the industry have taken part in the processing of trainees. So that there is no reason why there should be a gap between the graduates and what the industry wants.
- I01:** And we, of course now there is, as you are saying, is good move towards creating linkage between the industry and provider institutions, but we understand workplace practices change from time to time; and sometimes it may be difficult for the institutions or rather the industries to tell the institutions what should be put in the curricula because technology changes very fast, and also workplace practices change very fast, there are a lot of issues around that, globalisation, economy, and many other things. What are your views; please can you give me your views on how technical institutions will now equip graduates to adapt effectively to change?
- R01:** Ooh that is a good question. And one of the reasons why there needs to be a link between institutions and the industry is to try to close that gap, because in the industry, technology is changing so fast and in some cases the industry is able to acquire the new technology faster than the training institutions. And in fact in some cases the new technology, the training institution cannot afford to have the new equipment the truth is that they are very expensive to buy and also very expensive to run. And it is not even worthy to keeping these in the training institution because they are very expensive, and if they don't do any production is a wastage of resources. So, the link between training institutions and the industry; this is where it is very important to improve. Because if there is such a link, then it is easier for the students and the teachers as well getting into the industry and get access to the new technology which is very good in the industry. Once they learn the new technology in the industry, they come to the school; they get the theoretical knowledge such that the practical knowledge they get from the industry. And if the technology is not available in the institution's workshop then staff can follow in the industry. And if the industry doors are open, then students can access the technologies in the industry, learn and graduate in their specialisation. And the teachers can, as well can access the technology in the industry. And there is a proposal right now if it is possible for the institutions also to see a way, let's say the main feature of the regulatory authority as well, to see the possibility of using some of the people in the industry to deliver some of the programmes in the workshop, because those people are hands-on, in fact more hands-on, to practice in the workshop, could just practice as part-time teachers to deliver some programmes. Invite them to deliver some programmes. If take can have a programme but you see may be there is a more competent person in the industry, you can invite that person to deliver the 45 minutes or whatever way, so that the teacher can oversee the delivery and so on. And this practice is happening, but informally in Tanzania, but I think this is where we are lacking, because in other countries that is well adapted; and that has to be so with technology.
- I01:** For example in German they have what they call the Meister. This is a skilled person in the industry where students from the centre are attached to a facilitator or rather supervisor who is conversant with issues of production line, and then students are working under that supervisor who is a skilled person, I mean

recognised by the training institution as well as the industry. But now, for this to work, aren't you thinking of may be, do you think there is a need of having a policy to, or..?

R01: Yah, yah, that is one of the items which in the currently policy being revised it has been taken care, that the industry should work together with institutes. Unfortunately even the regulatory authority we are working with are seeing it, are recognising it. And I think there is a need to emphasise that people in the industry should be recognised and accepted as competent persons to teach part of the programme. I remember it well when I was doing my Masters when the person who was overseeing me was from the industry; was capable and qualified from the industry to oversee the programme in my study. I know in Tanzania it is not quite common practice especially in the technical education, but for Universities this is something else; for technical institutions it isn't practiced as it should be.

I01: Now without wasting much of your time we are going to the last question. This one I would like to get your views on the extent to which you think our institutions would equip graduates to build the social cohesion.

R01: Uuuh (laughter), that is a very wide, very wide question; but in fact a very good one. Now, our technical institutions or our TVET institutions are an important, have an important role to play in the social development of our country. Our economic development in the country depends, to a large extent on availability of skilled people in various sectors for economic development. Even in MKUKUTA II, it is clearly stated that in order to make economic development we need skilled resources, skilled personnel resources in every economic area. I repeat we need skilled human resources. We need skilled human resources in every economic area. I repeat, we need skilled personnel in every economic area. In agriculture we need skilled people, skilled personnel, skilled farmers, and skilled people working in agricultural sector, processing industry. In tourism we need qualified skilled people with various skills, tourism skills. In mining, people working in mines, people working in different mines, we need highly qualified skilled personnel. Well even in hospitals, we need skilled people – skilled doctors, nurses. And these can only be available from our training, skills training institutions, from our TVET institutions. So you find that in order to run Tanzania to achieve our MKUKUTA goals, in order for us Tanzanian to have any substantial economic growth, socio-economic growth, we need to invest more in skills, we need to invest more in TVET institutions in order to produce enough skilled people for socio-economic development of our country. I am not sure whether this is the reply?

I01: May be I can ask another question in line with this one. We have seen; we are seeing challenges of behaviour, attitudes of people, seriousness with work, respect of law happening, to a large extent in Tanzania. Are you seeing the introduction of CBET in technical institutions in Tanzania solving that problem?

R01: You know there are two issues there; we are talking of two issues. We are talking of hard skills and soft skills. To a large extent, our institutions are providing sufficient hard skills. What is missing, we have tended to forget in our curriculum to include some access of soft skills. We tend to take it for granted that soft skills are available, they're there, and it's inevitable everybody knows that there are soft skills. Issues like going to work late, issues of underperforming in your work place, issues of being serious when you are doing any exercise in your office; those are the issues which we tend to take for granted, but they are not. These are soft skills; they're cultural aspects which need to be cultivated. You know cultural aspects were much stressed after independence, specifically after 1967 Arusha Declaration when education for self-reliance was introduced. And may be, with future trainings of CBET we might find a way to include those cultural aspects in our CBET curriculum. May be first years of CBET, or some years when graduates have started to work. In a workshop what do you need do, how do you need, do you need to be punctual in a workshop if you have an exercise; being punctual if you are given 2 hours to finish that exercise, things like that. Once a student is brought in such an atmosphere, that is mindset is such that I have to be punctual, I have to finish on time, I have to attend this on time; that is cultural, you need to build; and this should be included in a CBET curriculum, I think this should be taken aboard into our CBET curriculum, to have people with both soft skills and hard skills. Next week on the 10th I'm attending a meeting on youth development of soft skills.

It's an organisation, NGO. I think this is not sufficient, we need to see how this can be incorporated in our modules or CBET so to build the cultural aspects in our students, the culture of work, and, and it's very important. You can have the hard skills but if you lack the soft skills, phew, useless.

I01: Thank you so much. Because competence, the way we understand it here its skills, knowledge, understanding and wider attributes, with wider attributes put to address the soft skills, but from your explanation here it seems it is still a big challenge.

R01: It is a big challenge. We have not taken it seriously. We have not seriously included it in the modules. We take it lighter that ooh this is very simple, everybody knows. Attributes, such attributes need to be built. We cannot think that they will build on their own, we need to build them.

I01: It takes time.

R01: It takes time.

I01: Mr. R01 thank you so much for your talk, I have enjoyed the way you have addressed my questions and indeed I think you're the right person I have come to, because you have given me history on the concept of CBET, and how it has been developed and how it has been implemented and current challenges which it is still facing. But I was also happy to hear from you that there are other initiatives which have been started, for example this project which is looking at establishing the link between the providers institutions and the industry; and also the willingness of the state to formulate the policy which will be governing that. I think that is a very good future, future vision for CBET in the country.

Thank you so much for your time, and when this exercise is completed I will avail the document to you to see how these ideas have being in incorporated.

R01: Thank you I01. Thank you I01, it was a pleasure to have you with me, and especially to discuss the national issues. These are national issues, they're for every Tanzanian, and every Tanzanian should somehow contribute to the development of our country. Thank you so much.

I01: Thank you so much.

