

**EXPLORING LIFELONG LEARNING AS A STRATEGY FOR  
PROFESSIONAL TECHNICAL VOCATIONAL EDUCATION and TRAINING  
CURRICULUM DEVELOPERS IN BOTSWANA**

by

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## DECLARATION

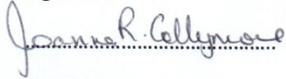
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Represents my own work and that all the sources that I have used or quoted have been  
indicated and acknowledged by means of complete references.

I further declare that I have not previously submitted this work, or part of it, for examination at  
UNISA for another qualification or at any other higher education institution.

Signature



(J.M.R. Collymore)

Date



## DEDICATION

*This dissertation is dedicated to*

*My husband and children who supported me throughout this journey,*

*and who made many sacrifices when this project became the priority  
in my life.*

*And in loving memory of my parents*

*Llewellyn and Sheila Rocke*

*who gave their children a tradition of hard work, discipline and faith.  
I will always treasure their values.*

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**EXPLORING LIFELONG LEARNING AS A STRATEGY FOR PROFESSIONAL TECHNICAL VOCATIONAL EDUCATION and TRAINING CURRICULUM DEVELOPERS IN BOTSWANA**

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**ABSTRACT**

This research is a critical analysis of lifelong learning (LLL) as a strategy for continuous professional development (CPD) of curriculum developers in the Department of Technical Vocational Education & Training (DTVET) in Botswana. The assumption that formal education will provide the required competencies for the duration of the work cycle is obsolete. The researcher argues that the workplace provides a rich environment for informal, problem-centred learning and that LLL skills are essential tools that enable practitioners to be actively involved in their professional development.

The main discussion is within a postmodern paradigm which views learning and development as both a cognitive process as well as a social construct. This view forms the basis for an analytical construct to examine the fundamental question; do practitioners see themselves as observers on the outside, or as active participants, within the experience, having the ability to adapt to changes in the nature of work?

The study used a mixed, exploratory design to determine, motivators and barriers to LLL, and the LLL skills practitioners require to perform efficiently in their jobs. The conclusion was that in order to enhance the skills of practitioners to a level consistent with an evolving knowledge economy that continuous development rests on the inclusive principles of LLL, and on the acquisition of LLL skills. Data indicated that these modern day skills are perceived to empower practitioners to, not only manage change, but also to be change agents through the use of information technology, research, self-management, and team work. The fundamental barriers emanating from the research were the

lack of support from DTVET management as well as cultural barriers which inhibit self-directed learning.

Data from the study were conclusive in showing that LLL was an effective strategy to enhance CPD. Based on the roles, barriers, motivators and LLL skills identified in the research, recommendations are presented along with a conceptual model for LLL as a strategy for CPD.

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## Definition of Terms/Concepts

APP	Annual Performance Plan
BTEP	Botswana Technical Educational Programme
BTEP Phase Training	Professional Development Training in Outcomes Based Education and Training for Curriculum Development Officers
BQA	Botswana Qualifications Authority
CPD	Continuing Professional Development
DTVET	Department of Technical Vocational Education and Training
HRDC	Human Resource Development Council
LLL	Lifelong Learning
MOE&SD	Ministry of Education & Skills Development
OBE	Outcomes Based Education
PBRS	Performance Based Reward System
PDD	Programme Development & Delivery
PDP	Personal Development Plan
SQA	Scottish Qualifications Authority

# **CHAPTER 1: GENERAL INFORMATION, STATEMENT OF THE PROBLEM AND OVERVIEW OF THE STUDY**

## **1 INTRODUCTION**

The Government of Botswana (GOB) through its policies has demonstrated its commitment to Life Long Learning (LLL) as a major strategy for citizenry participation in the new economy. Knowledge being the foundation of this new economy means that learning is central to economic, social and professional growth. LLL as a policy is directly linked to the importance of skills and social development in the new economy. It is therefore not surprising that Technical Vocational Education and Training (TVET) is valued as a major contributor to the socio-economic development of Botswana. This focus on development has led to the establishment of regulatory bodies, quality assurance standards and on-going collaborations with internal and external stakeholders. These initiatives impact directly on the role and function of curriculum developers in the Department of Technical Vocational Education & Training (DTVET). They result in practitioners having constantly to expand their knowledge and skill sets to fulfil their mandates within an increasingly demand-driven, complex TVET landscape.

Given this need for Continuing Professional Development (CPD) curriculumists find it necessary to embrace the concept of the new millennium worker (Chiavenato, 2001). The assumption that formal education will provide the required competencies for the duration of their work cycle is obsolete. The new millennium worker can be described as reflective and reflexive, cognisant of the wealth of knowledge being generated in the workplace. The new millennium worker will require LLL skills that would enable him/her to adapt to the change of focus from formal learning to informal, work based learning. This new focus will allow him/her to respond to internal and external changes which affect a demand driven curriculum. The assumption that adults are intrinsically motivated, self-directed learners forms the core of this inquiry (Knowles, 1992; Ryan & Deci, 2013). The study interrogates the emphasis on formal training as a strategy for professional development within DTVET. This traditional emphasis on formal training sabotages individuals' intrinsic motivation to learn thus depriving them

of naturally occurring learning opportunities that are present “on-the-job” (Murayama, Matsumoto, Izuma & Matsumoto, 2010). It also results in the organization, instead of the individual, taking the main responsibility for planning professional development activities.

While there is overwhelming evidence that CPD is a joint activity between the employer and employee, CPD is mainly the responsibility of the employee who is seeking to expand or upgrade his/her knowledge and skills. This research focused on LLL as a strategy for CPD from the perspective of the individual’s engagement in intentional learning. This perspective is supported by late modern theories which have emanated from Dewey’s “theory of inquiry” and expanded to encompass the theories of Kolb’s “Experiential Learning” and of Lave and Wenger’s “Situated Learning” (Dewey, 1938; Kolb, 1984; Lave & Wenger, 1991). These theories provide a pragmatist framework that supports this research as they propose that adult learners must be conscious of their own barriers to knowledge acquisition and that truth of acquired knowledge is grounded in everyday life and practice (de Corte, 2011; Bell & Mladenovic, 2014).

## **1.1 Background**

This brief background describes government initiatives and the curriculumists' profiles.

### **1.1.1 Government’s Initiatives**

The GOB in response to globalisation has made a commitment to transform the country from a resource (mineral) based to a knowledge based economy. On this topic Vision 2016 (1997) is explicit that,

*“... by the year 2016 Botswana will have a system of quality education that is able to adapt to the changing needs of the country as the world around us changes”.*

The Ministry of Education & Skills Development (MOE&SD) through DTVET, more specifically Programme Development and Delivery (PDD), is therefore mandated “to

provide accessible, equitable and quality programmes and training” (DTVET, 1992). This mandate is intertwined with initiatives emanating from the Revised National Policy on Education 1994 (RNPE) and the National Development Plans 8 and 9 (NDP). These policies have led to the establishment of the Botswana Qualifications Authority (BQA) and the Human Resource Development Council (HRDC) (MOE&SD, 2013).

The HRDC monitors market trends to ensure that education and training are directly matched to socio-economic development. The BQA will provide a framework that allows articulation from TVET to mainstream academia as well as progression to higher level TVET qualifications (MOE & SD, 2010). These initiatives clearly demonstrate the importance the GOB (Ministry of Education, 2001:3) places on, *“... life-long education and training that is relevant and responsive to the rapid technological development and the changing socio-economic environment”*.

DTVET, also an offspring of this initiative, is responsible for the development of the first Outcomes Based (OB) qualification, Botswana Technical Education Programme (BTEP). To date, curriculumists in PDD have developed or are in the process of developing 25 different TVET programmes from Foundation to Diploma Levels (DTVET, 2013). BTEP is market driven requiring curriculumists to ensure that programmes respond to industry and learners’ needs, as well as to policies at international, national and college levels, for example LLL and Education for Sustainable Development. To support this shift to OB education, DTVET, in 1999, opened the first TVET Teacher Training College offering a Diploma in TVET Teacher Training. In 2012 the college piloted a Certificate in TVET Teacher Training to address the large number of untrained TVET educators in both the public and private sectors (DTVET/BOTA MOU, 2010).

The GOB continues to advocate for LLL and the CPD of TVET curriculum developers by pursuing strategies for the implementation of their education and training policies. This trend is evident in their partnerships with international bodies and local stakeholders. The European Union has partnered with GOB in developing the National Qualifications Framework which is guided by the principles of LLL. One

of the objectives of the South Korean/UNESCO "Better Education for Africa Rise" (BEAR) is the up skilling of TVET educators.

### **1.1.2 Curriculists' Profile**

By virtue of DTVET's mandate, curriculists in the department find themselves in a new, complex, changing environment requiring skills that were not part of their teacher training curriculum or content of their professional development training programmes (BTEP, 2008; 2011). Many of the curriculists were trained under the traditional Newtonian, closed system and have not benefitted from the new TVET Teacher Training programme offered at Francistown College of Technical Vocational Education (FCTVE). Practitioners have requested training that would enable them to function effectively within this unfamiliar territory, especially on OB education, articulation and progression, flexible teaching and learning, lifelong learning and recognition of prior learning (DTVET, 2010). These concepts are foreign to their educational paradigm and therefore present challenges for them to implement. Their concerns have been validated by research which revealed that Technical Vocational Teacher Education and Training is one of the skill areas that needs to be fast tracked to improve the quality of TVET programmes and graduates (BOTA, 2010; BEAR Project, 2013).

This research, grounded in the tradition of self-directed learning, juxtaposes this request for training with the existing on-the-job opportunities for learning. Curriculists' ability to engage in CPD may be minimized if they lack the LLL skills which will enable them to identify informal learning opportunities and to engage in reflection in and on practice as a learning process. This approach to learning is necessary to survive in a knowledge economy, characterized by change and open access to information. It requires curriculists to become adept at learning, in other words "learning to learn." Lifelong learning, therefore, is an integral component of CPD which is considered to be a "survival mechanism" for all employees in the 21st century.

### **1.1.2.1 Opportunities for On- The-Job Learning in DTVET**

It is worth noting that DTVET has developed BTEP Phase I-IV training. It is a corollary to the BTEP qualification and provides training for curriculumists in best practices in the development, implementation and administration of BTEP (MOE & SD, 2008; 2011). In addition to this training curriculumists work with external consultants from the Scottish Qualifications Authority (SQA) in the development of Learning Unit Standards (LUS) and assessments. These consultants come with a wealth of experience and teaching/ learning material in OB learning systems. DTVET also has an annual training plan which informs the Human Resource (HR) department on the selection of curriculumists for long and short term education and training. Curriculumists have the opportunity to specify their training needs in their Annual Performance Plan (APP) from which HR arranges training. In addition, DTVET benefits from unlimited connectivity to the World Wide Web (WWW) which enables individuals to engage in desk top research, on-line communities of learning and webinars. In spite of these provisions curriculumists have expressed dissatisfaction about information given during induction as well as with professional development training provided by DTVET (DTVET, 2008, 2011, 2012, 2013).

Reflecting on this situation the following questions come to mind: To what extent are DTVET training content and methods suited to adult learners? How do Knowles' assumptions that adults are intrinsically motivated, self-directed learners apply in this context? To what extent do curriculumists apply Kolb's (1984) theory of experiential learning to develop new competencies from their everyday, on-the-job, concrete experiences? Should we accept Piaget's stage theory that adults function at a formal operational stage which enables them to form concepts and hypotheses that lead to the ability to link old stocks of knowledge to new information and thus engage in LLL?

## **1.2 Theoretical Framework**

LLL is grounded in the post-modern paradigm which lends itself to inclusiveness and diversity in the way research is conducted, curriculum models developed, teaching

and learning applied and the methods used to assess competence (Smith, 1996; de Vos, Strydom, Fouche & Delpont, 2010). It introduces an epistemology that values subjective as well as objective phenomena and closes the divide between the spiritual and physical world. It postulates that the whole is indeed greater than the sum of its parts. This focus on the whole person provides a platform for this research to embrace a dual philosophy: that of humanism which postulates that adults are self-directed learners and postmodernism which is skewed towards LLL in education and training for socio- economic development.

Many educational theorists have developed curriculum models based on a postmodern complexity theory in which teaching and learning is an interactive process. Some of these models are socio- constructivist (Spector, 1993); Experienced-Based Learning (Kolb, 1984) and Life Long Learning (Hake, 1999). Trends in education in today's world of technology and social networks have taken on a democratic form through dialogue, interaction and sharing of ideas and information. The underlying assumption of all postmodern theorists such as Dewey (1966) with his notion of experience as the best teacher, Gardner's (1999), theory of multiple intelligence and Bruner's (1966) construct, deconstruct, reconstruct, is the internality and transformative nature of development. Post modernists place us, not as observers on the outside but on the inside of the experience (Doll, 1986). Learning "at work" therefore is a natural occurrence that if engaged in intentionally will produce a reflective and reflexive curriculum. This study was guided by Kolb's experiential learning which stresses the importance of experience, reflection, generalisation and application and by the theory of "situated learning" (Lave & Wenger, 1991; de Corte, 2011; Bell & Mladenovic, 2014).

It is against this background that this study explored the LLL skills curriculum developers perceived they required for their CPD; the inhibitors, motivators and contributors to their CPD and the strategies that DTVET could apply to create a culture of LLL in the organisation.

### **1.3 Problem Statement**

The purpose of the study was to explore the extent to which LLL could be implemented as a strategy for CPD through “on the job” informal learning against a background of a traditional emphasis on formal training as a strategy for professional development within DTVET. Concerns raised by curriculumists about the inadequate training provided by DTVET and which impacted negatively on their performance stimulated the research.

At the core of the research is the need to know, “To what extent could LLL be implemented as a strategy for continuous professional development of TVET curriculum developers in DTVET?” The research project focused on a group of TVET curriculumists within DTVET who by the nature of their job and because they are embedded in the global knowledge society must continue to acquire new competencies. The findings of this research will provide curriculumists and DTVET with the opportunity of addressing and minimising the inhibiting factors as well as identifying contributors to CPD.

#### **1.3.1 Research Questions**

The main research question is:

*To what extent could LLL be implemented as a strategy for improving professional development of TVET curriculum developers in DTVET?*

Sub questions of the main research question are:

- What are the barriers experienced by curriculumists to “on the job” learning and training?
- What are the motivators experienced by curriculumists to “on the job” learning and training?
- What lifelong learning skills do curriculum developers require for their CPD?

### **1.3.2 Aim of the Research**

The aim of the research is to:

- Identify the LLL skills curriculumists require for their CPD
- Identify the barriers to “on the job” learning and training
- Identify the motivators to “on the job” learning and training
- Determine criteria to measure the CPD activities.

These findings will be used to develop a conceptual, holistic model for professional development and could result in: curriculumists’ increased ability to identify “on the job” learning opportunities; enhanced quality of learning evidenced by application of knowledge and skills to real life problems; and curriculumists’ willingness and ability to manage their CPD.

### **1.4 Motivation for the Research**

Research data have found conclusively that opportunities for reflective, informal learning abound in today’s workplace (Dewey, 1933; Tough, 1979; Lohman, 2000). However, there is a hiatus in research on the key competencies curriculumists at DTVET require to engage in intentional learning in their workplace. The study is of particular significance as it will provide an extension of understandings as to why formal learning is the chosen mode of learning for DTVET curriculumists; the LLL strategies that could be used to encourage “on the job learning” and a model that dewey could be used to develop individual and organisational strategy for professional development. The model may also be used to develop criteria to evaluate the quality and sufficiency of learning, including transfer of learning.

### **1.5 Research Design & Methodology**

The research design and methodology are briefly discussed here, both of which are more comprehensively treated in Chapter Three.

### **1.5.1 Research Design**

The study was exploratory, using a mixed design. This design was selected because it gives the researcher the opportunity to explore the perceptions of participants through the use of different types of data collection instruments. Qualitative and quantitative instruments were used in the following order: qualitative data first, followed by quantitative data (McMillan & Schumacher, 2006:13). This mixed design increases the validity of data as subjective data are seen more objectively. The design was considered effective in eliciting deep experiences of participants about their perception of LLL as a strategy to improve professional development practices. This emergent design enables greater participation in the research resulting in informants identifying their barriers and finding solutions best suited to their challenges.

#### **1.5.1.1 Methodology**

The methodology section describes sampling, site, data collection methods and their analysis in brief.

#### **1.5.1.2 Sampling**

Purposive sampling was used to gather data from a small group of information rich participants. Informants varied in age, gender, ethnicity, nationality, level of experience, education and training. Informants comprised 24 curriculum developers in various technical areas. Four of these perform the role of team leaders and were interviewed in that capacity. Interviews were conducted with three HR officers, as they are seen as key informants since they are directly involved in determining training strategies for DTVET curriculists.

##### **1.5.1.2.1 Data Collection**

The research question informed the selection of collection instruments. There were three different methods of data collection. The motivation for three different data

collection methods is for the purpose of triangulation. Triangulation provides the researcher with a systematic comparison of findings on the same research topic. The main instruments for data collection were interviews and focus group discussions. These were conducted initially in order to gain a deep understanding of individuals' perspectives and beliefs. Data collected from these forums enabled the researcher to use the right language with emphasis on important aspects for wording items in a questionnaire which were used as a secondary source of data collection. Data from the questionnaire were used to develop the model for LLL in professional development. The use of both quantitative and qualitative approaches strengthened the study ensuring validity, reliability, dependability.

Data were collected from team leaders using semi structured interviews. The interview schedule was comprised of open-ended questions and prompts. Three main questions were posed to the focus group which comprised seven persons each. Individual interviews lasted 45 minutes to one hour; while focus group discussions lasted up to 90 minutes. To capture informants' responses accurately and sufficiently, responses were recorded and transcribed verbatim.

#### **1.5.1.2.2 Data Analysis**

Data analysis was managed electronically and manually (Macmillan & Schumacher, 2006:337). Qualitative data were organized by codes which were derived from the data. Initial codes and categories were continuously refined throughout the study. Through categorizing, coding and cross analysis the researcher hoped to develop a pattern. Patterns enable a researcher to present plausible explanations supported by data. The researcher used manual techniques such as colour coding and electronic applications such as Microsoft word for entering, storing and retrieving data as well as for producing the report.

Quantitative data were analysed using central measures of tendency. Questionnaires were numbered and coded and responses calculated to determine the most frequently occurring. These data were then converted into percentages using graphs and descriptive statistics to convey findings.

### **1.5.1.3 Validity and Reliability**

To ensure trustworthiness of the data gathered the researcher used the following steps:

- a) a carefully designed semi-structured interview schedule to ensure the elimination of wording biases, direct and focused questions reflecting the aims of the research, language and reading levels that are appropriate to the respondents;
- b) purposive sampling to carefully select respondents with relevant experiences within the framework of the research;
- c) interpreting and reporting research findings as per the data analysis plan;
- d) eliciting permission to tape/record interviews;
- e) using respondent validation/member checks.

## **1.6 Statement of Research Ethics**

Attention to ethical issues included: permission from the Director DTVET and the Principal Technical Education Officer I (PTEO) in charge of the PDD to conduct the study on site; signed consent from participants; and agreement on confidentiality and anonymity (Bogdan & Biklen, 2007: 46). Participants were informed of their right to voluntary participation as well as their right to discontinue with the research. They were also informed about the dissemination of the report to relevant stakeholders. Care was taken to minimize researcher misinterpretation particularly because the researcher is a member of the curriculum development team at DTVET.

The researcher informed participants that the voice recording and note taking would be transcribed by the researcher. There would be no other third party involved at any stage of data collection, analysis or interpretation. Participants would be coded in such a way that is known only to the researcher. All data were kept safely in an undisclosed location in a lockable cabinet. Those would be destroyed after the results of the final assessment of the dissertation had been officially announced. The

researcher sought ethical clearance from the UNISA ethics committee before proceeding with data collection.

### **1.7 Limitations of the Study**

This study was limited to identifying LLL skills to be included in a model for professional development of a specific group. Therefore, the findings were not generalizable to other groups. More research would need to be carried out in order to gain a better understanding of the inhibitors to knowledge acquisition through, for example, a systematic evaluation of the cognitive developmental stage of curriculum developers. Similarly, further research will be required to measure the impact of the model and to identify needed adjustments. These activities are beyond the scope of this study.

### **1.8 Overview of the Research**

Chapter One gives the general description, statement of the problem and overview of the study. The aim of the research: to investigate the barriers to learning experienced by curriculum developers and to develop a holistic model based on the theories of experiential and situational learning supported by adult learning principles, are key features. The background to the investigation is presented tracing the development of TVET in Botswana and from which the theoretical framework will be defined. The Problem Statement: *To what extent could lifelong learning be implemented as a strategy for improving professional development of TVET curriculum developers in DTVET, is discussed against this background.*

Chapter Two, the literature research, though limited, focuses on LLL in the context of intentional learning which places the primary responsibility for professional development on the individual and less on the organisation. The assumption that adults are intrinsically motivated, self-directed learners forms the core of this inquiry and is supported by the literature which is within the theoretical framework of postmodernism. A new epistemology, one which values reflection, deconstruction and reconstruction as the foundation of intentional learning will be discussed.

Chapter Three outlines in depth the research design and methodology. The research design is defined as qualitative. This chapter discusses the rationale for selecting an exploratory design using mixed instruments. The methodology for data collection and analysis are described in order to establish congruency with the chosen topic. The selection of informants, attention to ethical issues and the method of communicating findings will be described in this chapter.

Chapter Four provides a discussion on the results of the study and draws references to positive and negative data in relation to the aim of the research. The presentation is structured through the use of themes which emerged from the data analysis procedures as well as those designed during the research.

Chapter Five presents conclusions of the study with reference to the problem postulation and aims of the study. A discussion on the wider issues as well as limitations in the research design

Chapter Six presents recommendations to address the challenges highlighted from the research findings. Included in the discussion is a conceptual model of LLL for CPD and the need to for a research centre at DTVET.

## CHAPTER TWO: LITERATURE REVIEW

### 2 INTRODUCTION

This literature review focuses on Lifelong Learning (LLL) as a strategy for continuous professional development (CPD) of curriculum practitioners. The importance of defining one's worldview as reflective and transformative practice is discussed. The impact of globalisation and its open market policies are highlighted as some of the challenges faced by workers in a knowledge society. This provides the rationale for advocating work-based, informal learning as a method for CPD. The discussion covers LLL policies at international, national and institutional levels and the initiatives that have been implemented to support LLL. Practitioners are seen through the lens of adult learners and their unique approach to learning. This view provides a framework for understanding challenges faced by adult learners. Metacognition is presented as a key competence for workers to understand their role in an unpredictable world. LLL as a strategy for CPD is seen through a transformational lens as postmodernists aim to explore various approaches to improve everyday work practice (Mezirow, 1983). In this respect the research presents a transformational model of CPD. The discussion highlights the value of "communities of learning" as valuable to CPD and the presentation of evidence as a portfolio. The opportunities inherent in the process of building a portfolio are briefly discussed: these include a systematic approach to identifying gaps in knowledge and skills; systematic approach to identifying the resources, time, and people involved in acquiring knowledge and skills; opportunity to critically present processes, identify challenges, and discuss learning development and transfer of learning.

A review of literature on the research topic, *Exploring Lifelong Learning (LLL) as a Strategy for Professional Technical Vocational Education and Training (TVET) Curriculum Developers in Botswana*, revealed a paucity of information. However, there were several sources of information on the topics of LLL and professional development from international organisations and countries other than Botswana. Since such information was found to be relevant, it formed the basis of the literature review.

## **2.1 The Impact of Globalization on the Workplace**

A growing body of expert opinion has been guiding our understanding of the importance of LLL and its corollary, CPD, as one of the solutions to modern-day, workplace challenges. The Organisation for Economic and Cultural Development (OECD) Skills Outlook (2013: 29) reports that modern day workplace challenges emanate from globalisation a phenomenon which is driven by technological advancements. One of the main challenges is managing information in a technology-rich environment. The way work is done has changed overwhelmingly and so has the set of skills needed to participate fully in and benefit from hyper-connected knowledge societies. According to the report the workplace is an increasingly complex, volatile work environment requiring workers to develop higher analytical skills. The OECD identified key information processing skills required for a technology rich work environment: they are literacy, numeracy and problem-solving. As technology is rapidly changing so too must people keep learning in order to survive in the workplace. The OECD in its report, Employment Outlook, 2007, alerts us to the danger to workers brought about by globalisation and its open market policies (Coe, 2007).

### **2.1.1 A Shift in Educational Philosophy**

The concept of learning throughout life has become a *sine qua non* for workers to address the volatility of the work environment. LLL is viewed as a strategy for workers to adapt to the evolving requirements for their social, economic and professional development. Although the idea of education (as learning) as part of our everyday lives, not limited to formal education, was already being discussed by Dewey (1933) in the early part of last century, with the science and technological revolution of the 1980s new understandings about the cosmos have emerged. Complexity theory, a development of systems theory, has had an impact on all disciplines including those related to learning. The way this has happened is explained by Kuhn and Woog (2011:261):

*Viewing the world and experience as complex enables a different engagement. Personal, social, and material aspects may be*

*conceived of and related to differently. There can be more space for “the other.” This way of viewing allows greater richness of experience and freedom for conceiving of future possibilities. From a complexity perspective, we may envisage human society as spontaneously emerging through interactions between self-organizing, dynamic, and emerging entities or systems. The world or reality can be treated as dynamic.*

The world that was seen as fixed, orderly and measurable is seen as multiple, complex, fluid and emergent (Doll, 1986:10-16). An outcome of this thinking is the move away from education philosophies which stress curriculum (what we should learn) such as perennialism (personal development) and essentialism (essential skills). Such educational philosophies tend to propound that the role of education is to maintain the status quo and education is an end in itself (Cohen, 1999:3). In today's world, post-modernists are subscribing to a new philosophy of progressivism and constructivism from which education is seen as enabling a transformation of the self (Mezirow, 1983). Delors' report (Delors, Al Mufti, Amagi, Carneiro, Chung, Geremek, Gorham, Kornhauser, Manley, Quero, Savané, Singh, Stavenhagen, Suhr, & Nanzhao, 1996:21) advises that not only must LLL enable us to adapt to the changes in the nature of work but it must also engage individuals in a continuous process of forming whole beings, that is, developing knowledge, aptitude, as well as the critical faculty and ability to act (transformation). Various international and local bodies concur that learning to learn, problem solving, critical understanding and foresight intelligence are key skills needed for the knowledge society. The OECD (2007) highlights a novel predicament of this post-modern era: we live at a time when 60 % of trades and jobs to be performed in the next two decades are not yet known. This phenomenon affects all workers requiring people to learn continuously in an effort to adapt to change (Coe, 2007). This dissertation explored the LLL skills curriculum practitioners perceive they need to enable them to function effectively in an environment characterised by technology, indeterminacy, shifting relations, and increasing demands. A shift from formal to informal learning, from a didactic to a heuristic approach to professional development (and in turn curriculum development) is what is needed. This transformation requires curriculum practitioners to be

reflective on their practice and to become proactive about their CPD. The researcher advocates that curriculum practitioners should embrace the concept of the new millennium worker, one who is reflective on and reflexive in everyday practice. The assumption that formal education will provide the required competencies for the duration of their work cycle is obsolete.

Ornstein & Hunkins (2004:212) describe learning in the post-modern world as “assuming openness to process, an eye for the unexpected and readiness to interact with systems as they evolve”. The workplace presents an ideal opportunity to develop those aforementioned key skills. The reason is that the workplace provides real problems generated by evolving systems, unanticipated demands, new products driven by technology and new clients with diverse needs. The workplace also comprises “old timers”, technical experts with many years of experience who can be mentors to “newcomers”. The concept of informal, workplace learning is based on the philosophy which posits that reflection on experience is the best teacher (Dewey, 1938). It was developed further into theories of learning by such thinkers as Jean Piaget (1896 –1980), David Kolb (b.1940) and Carl Rogers (1896 – 1980). It was thereafter expanded into the theory of “situated learning” (Lave & Wenger 1991). The theory of “situated learning” provides the theoretical framework to support the discussion on informal, workplace learning, in this investigation. The second framework, Kolb’s Experiential Learning Theory (ELT), supports the discussion on the value of reflection and critical thinking as central to learning from experience.

Creativity, multi-skilling, and flexibility are now the hallmark of twenty first century skills Doll (1993). United Nations Education Social and Cultural Organisation (UNESCO, 2012), Delors (1996), European Commission (EU, 2011), Seltzer and Bentley(1999) concur that adult educators will need to replace mere performance with competence, that is, high level cognitive and technical skills and a mind-set committed to exploration and creativity. To achieve competence, curriculum practitioners should develop metacognition; awareness of self, as well as awareness of the social as a constitutive part of the self. This awareness will require curriculum practitioners to become reflective on and reflexive in their strengths and weaknesses as they affect every day professional practice. Bruner (1973) argues that set or

attitude is the most important of all curricula criteria. Given this perspective it is postulated that in order for curriculum practitioners to engage in informal learning meaningfully, there needs to be a mind-set change from a focus on formal learning with adjunct issues of externality, to attention on informal learning being self-directed, collaborative, and leading to internal transformation.

### **2.1.2 Defining One's World View**

Education and training offers rigorous analysis and questioning of education approaches, processes and systems within their philosophical, historical, psychological, cultural, socio-economic and political context. Mezirow (1983:136) suggests that the goal of adult educators must be to guide learners to transform. The concept of transformation is opposed to the spectator theory of knowledge which views reality as set apart from us, stable, predictable and to be discovered. Doll (1993:170) refers to this view as a logical and analytical method which has governed our epistemology and pedagogy. Bruner (1986) mentions another complementary method of thought to the logical, analytical and scientific: this is the metaphorical, narrative, hermeneutical. The difference between these two views is that the analytical is explanatory while the narrative is interpretative. The assumption in the latter is that we are not onlookers to reality. We are at the centre of our world constructing meanings through dialogue. Tennant (2006:122) says that "an unanalysed experience is a kind of a happening" - it does not develop knowledge. It is through dialogue that interconnectivity and transformation is achieved. There is no ceiling to learning, neither is learning restricted within the confines of formal, institutionally based setting - every person can be engaged in LLL, provided they are reflective and reflexive.

## **2.2 The Concept of Interconnectivity: a holistic approach to development**

The concept of interconnectivity, learning through concrete experience is not new. Brandt (2008:4) refers to traditional African epistemology, ontology and cosmology as being interconnected. Traditionally learning, teaching and development in Africa

have been natural processes exemplified by participation in ceremonies, and listening to stories (narrative method). A holistic approach to education, for sustainable development benefits from incorporating such learning. African epistemology, ontology and cosmology should be emphasised with the view of exploring the values, beliefs and assumptions that may not be explicit to us but that nevertheless underlie our professional practice. This phenomenon is of significance because the research was conducted within an African context, Botswana TVET system. In valuing “the best of what is”, a concept borrowed from appreciative inquiry which recognises success and capability as a start to transformation as opposed to focusing on what is not working and who is to blame, African epistemology is what we have. By epistemology is meant the philosophical investigation of the origin, nature, methods and limits of human knowledge (what is valid knowledge). In an attempt to address our stance or worldview within the contexts of our history, social and environmental environments Brandt (2008) refers to the African philosophy of Ubuntu, through which African people see themselves as being interconnected parts of sub-sections of an indivisible whole. Mwamwenda (1995:421) reminds us that the dominant way of knowing in Africa emerges through interaction and action on concrete experience. This concept is similar to Kolb’s (1984) Experiential Learning Theory (ELT) which provides a theoretical framework for discussions in this review.

### **2.2.1 The Philosophy of Ubuntu**

Ubuntu philosophy is based on the concept that there is a universal bond which connects all of humanity. This philosophy can be said to embody similar approaches to those expressed by UNESCO’s (2013:3) *Principles on education for development beyond 2015* as expressed thus, “it is important to reaffirm a humanistic and integrated vision of education, with this latter playing a fundamental role in personal, social and cultural development”. Education is understood as the tool by which the bond connecting humanity can be instantiated. The concept of “situated learning” through which knowledge, skills and a way of knowing is passed from “old timers” to “newcomers” in “communities in practice” also stresses the connections between all

humans. Within in any aggregations of people, language as a crucial means of conveying information and educating others into ways of knowing is central (d'Errico & Hombert, 2009; Tomasello, 2010). Lave and Wenger (1991:101) refer to the importance of language in forming professional identity for participants in “communities of practice”. The oral tradition practised in Africa, through which history, tradition and ways of doing things, is passed from one generation to the next appears to be based on the same principle.

Curriculum practitioners immersed in a community of practice can therefore be required to expand their professional knowledge beyond a single approach and philosophy. Values, beliefs, theories need to be interrogated and juxtaposed with each other with the purpose of transforming our understanding and increasing our appreciation of a world where change is the order of the day and inclusivity its hallmark.

This approach should also be reflected in curricula. Post-modern curricula are characterised by a focus on context, interpretation, process, problem solving of real life issues and by multiple perspectives. Brandt (2008:5) advises that adult educators accompany learners on their educational journeys by co-recognising and co-removing their barriers to learning while establishing and maintaining quality learning spaces so that learners become self-directed LLL learners, participants in serving others and creating a better life for all. In view of this concept practitioners could ask themselves, “What is my view from an Ubuntu perspective, that is, we belong to a collective of intelligences: how can I apply the philosophy to inform my professional development?”

### **2.2.2 Established Assumptions, Beliefs and Values**

Curriculum developers are adult learners and therefore embody the characteristics of adult learners. According to Knowles (1980) adult learners bring a wealth of knowledge to the learning experience. Daines and Graham (1993:4) as cited in Viljoen (2013:23) describe the adult learner as someone who enters the learning situation with experience and knowledge gained over years. This knowledge forms a

platform for the integration of new knowledge. Viljoen (2013:28) refers to motivators which positively encourage adults to enter the learning experience. Some of these include: personal development, personal interest, and the maintenance of a learning identity. Bye, Pushkar and Conway (2007:143) identify self-improvement and personal growth as key motivators, for adult learners, above extrinsic goals such as job, career, or financial gain. However, literature also reveals that not all adult learners' characteristics are positive. Viljoen (2013: 34) refers to Darkenwald and Merriam's (1982) research on inhibitors to adult learning. Three categories of inhibitors were identified. These are: a) Situational, such as family responsibilities, geographical and financial constraints; b) Dispositional, referring to psychological barriers, for example, fear of the unknown, beliefs, values, and perceptions about education and about the self as well as informational barriers; c) Institutional, such as apprehension of policies and administrative procedures. From these two perspectives knowledge could act as a contributor or as an inhibitor to learning and development. A discussion on the contributors and inhibitors to adult learning, while very important to this discussion, is beyond the scope of this project. However, it is speculated that as reflectiveness and reflexivity develop, practitioners, as adult learners, critically question their motivators and barriers to learning as well as assumptions that underlie how they make sense of their professional practice as well as the cognitive processes by which knowledge is created.

To address barriers, an important question curriculum practitioners need to ask is, "How do I view the world: do I see it as a simple, orderly phenomenon where perturbations are seen as disruptive?" Or is my worldview one in which the world is seen as complex; where perturbations are considered as a natural process of growth, development and self-organisation, that is, the ability to reorganise oneself as a result of disequilibrium? According to Piaget (1973:62) disequilibrium occurs when new information is being assimilated and accommodated. During these processes, there is discomfort as the learner strives to regain equilibrium, nevertheless human beings have the ability to reorganise themselves as a result of disequilibrium and this is the result of higher qualitative levels of cognitive development (Piaget,1973; Prigogine & Stengers, 1984; Doll, 1993). Curriculists' attitude or world view assumptions are critical if there is to be transformation in the

way curriculum is developed and delivered. The researcher also recognises that for practitioners to develop curricula that advance a postmodern perspective of social inclusion, and foresight- intelligence, they must continue to learn, unlearn and relearn. The challenges that arise from learning should be viewed positively; chaos does not have to ensue from a lack of order but instead the focus should be on the end result, development of higher cognitive skills. This way of thinking reflects the concept of learning as a LLL process.

### **2.2.3 Education through the Lens of Transformation**

The crucial role which education plays in meeting some of the goals expressed as necessary for “the multiple dimensions of societal development ... in its multiple social, cultural, environmental and economic dimensions” (UNESCO, 2013:3) is affirmed repeatedly. Education transformation is supported by Millennium Development Goals (MDGs) (UNDP, 2011) and its successor goals - Sustainable Development Goals (SDG) (UNESCO, 2013). To reinforce the need for transformation, The Swedish International Centre for Education for Sustainable Development (SWEDESD) in its Newsletter (2012) reiterates the necessity for educators to focus on civic values, critical thinking and problem solving to address the challenges of the post 2015 era. How education for sustainable development impacts practitioners is that it encourages awareness about the positive impact a green curriculum could have on learners’ self-awareness, entrepreneurial abilities, adaptability, and on education research that fosters appreciative inquiry, green technology that reduces carbon footprint and creative use of natural and indigenous resources. Botswana being a signatory to UNESCO’s MDGs and SDGs means that DTVET has the responsibility to develop strategies to enable TVET educators to acquire twenty first century skills in relation to curriculum for sustainable development. This presents yet another reason for advocating for LLL as a strategy for CPD. Twenty-first century skills are not fixed but continue to evolve as globalisation and technology increasingly impact on our world.

This trend towards transformation in education and training signals a shift from fixed closed methods based on a Ralph Tyler (b.1902) rationale, which views curriculum

within the boundaries of specified outcomes, and the world as fixed and orderly (Tyler, 1949). New trends towards open methods based on constructivism, flexibility and LLL are what is called for. Examples of open methods include Stenhouse's Process Method (1995), Freire's Critical Inquiry Method (1973), and Lave and Wenger's "situated learning theory" (1991). Interpretation of meanings as opposed to analytic explanation characterises post-modernism. Doll (1993:169) argues that "without dialogue there is no transformation." In this sense the dialogue encompasses conversation in "communities of practice" as well as recursive reflection on the part of curriculum practitioners as they endeavour to improve their professional practice and contribute to sustainable education.

## **2.3 Adult Learning Characteristics**

A discussion on LLL and CPD would be lacking without reference to the adult learner and the art and science of andragogy. This perspective allows the principles of adult learning to be "turned back" as practitioners become the "learners" in these discussions.

### **2.3.1 Andragogy**

Andragogy is the term used to describe principles of adult education. Do adults learn differently from children? This seems to be the defining criterion for establishing a theoretical basis for adult learning. According to Holton and Swanson (1998) andragogy has been alternately described as a set of guidelines, a philosophy, a set of assumptions or a theory of adult learning. Knowles (1990) refers to andragogy simply as "differentiating adult learning from youth learning". It was he who developed the fundamentals of andragogy as a theory of adult learning when he presented the *Andragogical model* based initially on 4 principles and then on six: a) the learner's need to know, b) self-concept of the learner, c) prior experience of the learner, d) readiness to learn, e) orientation to learning and, f) motivation to learn. A study on European Terminology in Adult Learning for a Common Language (2010:6) described adult learning as "the entire range of formal, non-formal and informal

learning activities which are undertaken by adults ... which results in the acquisition of new knowledge and skills.” From the perspective of this research, andragogy refers to all the components of adult learning. Knowles' principles have assisted educators in appreciating the value of context in adult learning. In today's world where the principles of free market prevail, new possibilities for initiative, enterprise and individual capacities and abilities are available. This reality forces workers to be more responsible, independent, and competent in the choices and decisions they make. Given this scenario, individuals have become the real subjects of their socio-economic, personal and professional development. Practitioners are therefore expected to be more proactive and responsible for the CPD. Knowles' principles provide motivation for adults to engage learning in this environment. Adults should value their experience, what they know and what they can do as a foundation to acquire new knowledge and skills that are relevant to their immediate personal and professional challenges. Zmeyov (1998:103) alludes to LLL as a necessity in response to the phenomena of free market and new possibilities for initiative. He describes learning as “a kind of being - Homo studens.” Based on research and practice of adult education internationally Commonwealth of Learning (COL 2009-2012), UNESCO (UIE, 2003), UNESCO (2008-2013), Curriculum 2005 (OECD, 2013) it is surmised that adult learning requires its own approach. This is one in which learners' experience is used as scaffolding for new concepts and knowledge. Learners' readiness to learn and orientation to problem-based learning provide a rationale for the position held in this discussion that informal, workplace learning provides curriculum practitioners with the opportunity to identify real problems, to reflect on them and deduce generalisations that could be applied to new and more complex problems. However, as mentioned earlier adults do face learning challenges in spite of the characteristic self-directedness that has been attributed to them.

### **2.3.2 Challenges faced by Adult Learners**

According to McAllister (2013: 143) in spite of the self-directed nature of adult learners there are several challenges peculiar to their life stage. He identifies critical

challenges such as balancing family and social responsibilities with studies, financial constraints and lack of Information Communication and Technology (ICT) skills. Lohman (2000:89) in another study reported that one of the barriers to professional development identified by educators was the lack of proximity to learning resources. Viljoen (2012: 22) refers to a study conducted by Castle, Munro and Osman (2006:364) on the Wits Plus programme, an initiative of the University of Witwatersrand. Barriers reported by part-time students on the programme included lack of bursaries, ineligibility for financial aid, the length of time needed to complete a degree on a part-time basis, and the intrusion of real life into studies.

In the context of TVET in Botswana, learners enrolled in the Botswana Technical Education Programme (BTEP) reported that as adult learners with responsibilities, it was difficult to attend full time classes. Employers and students also complained about the programme being too heavily skewed towards theory instead of skills acquisition (BTEP Tracer Study, 2007).

A recent study conducted at the University of Botswana also highlighted the challenges experienced educators faced when enrolled for the full time Bachelor of Education (B.Ed.) and Master of Education (M.Ed.) programmes (Mhozya, Pansiri, Bulawa, & Moletsane, 2012:23): lecturers did not link learners' wealth of experience to learning content; too much emphasis on theory "which did not contribute significantly to their learning". The adult learners indicated that practically-based learning was more beneficial providing them with real life scenarios more relevant to their work problems. Research has shown that LLL as a strategy for CPD, more specifically, informal, work-placed learning is well suited to addressing adult learning challenges (Tennant, 2006). Huang (2002) is of the opinion that in spite of challenges, adult learners are prepared to learn provided their life situations create a need for learning. Workers are ready to learn when new information addresses an immediate problem. The workplace becomes an environment conducive to learning as it comprises "communities of learning": people working together and learning from each other in an integrated, cooperative way. The theoretical frameworks ELT and "situated learning" support the discussions on workplace, informal learning in this review of literature.

## 2.4 Situated Learning

Proponents of situated cognition posit that learning is embedded in the activities and situations in which it occurs (Brown, 1987). These theorists emphasise that social interaction is a critical component of situated learning. Lave and Wenger (1991:33 cited in Tennant, 2006) argue that "communities of practice" embody not only technical expertise but also beliefs, behaviours and language which form essential parts of their professional competence. "Communities of practice" are composed of two groups: working experts at the centre and "new comers" at the periphery, observing, learning and practising. Lave and Wenger contend that as new comers increase in knowledge and skills they move from the periphery to the centre. They become more active and engage with the work culture assuming the role of "expert". Language of the profession is critical in this process. Quinlan and Ya-Yong (1998: 5-9) describe task analysis, from a cognitive science perspective, as "a systematic collection of data about a specific job or group of jobs to determine what an adult learner must do to achieve competence". An important aspect of task analysis is reflection- in and on- action as the learner repeatedly questions his/her actions while performing a task. Lave and Wenger argue that learning is not so much a matter of individual's mastery of knowledge and processes of reasoning but one of engaging as co-participants in a "community of practice". Their focus is on the relational view of the individual and on learning, distancing their concept of learning from the cognitive approach which emphasises internality. Tennant (2006:76) in his critique on Lave and Wenger's concept of situated learning emphasises that cognitive structuralism supports "the principle of activity as the source of knowledge and therefore learning is a cognitive process that is enhanced through interaction and activity".

Billet (1994:271) attempts to reconcile cognitive and sociocultural perspectives. He explains that as individuals engage in goal directed activities, they access, manipulate, and transform cognitive structures. His research on workplace learning confirms the importance of informal learning in the workplace. He acknowledges the

value of "everyday activities" "observing and listening" and "other workers" as sources of knowledge.

In my view both concepts are important, learning as a social construct as well as learning as a cognitive process. While Camus (1995: 193-4) is of the opinion that learning can occur in and out of context, the focus in this research is on the learner's internal transformation which is motivated by activity and social interaction in "communities of practice." The theory of situated learning provides a framework for a discussion on the value of informal workplace learning as a method for embracing LLL as a strategy for CPD as it provides a collaborative context for learning and development.

#### **2.4.1 The Value of informal Learning in the Workplace**

Informal learning in the workplace introduces a new and integrated epistemology of practice (Holford, Jarvis & Griffin, 1998). This approach to learning is based on organic logic which shows workplace education and training emerging from the contingent; practical (rather than theory); process (rather than the assimilation of theory); particular (context); affective and social domain (rather than exclusively the cognitive domain). Doll (1993: 143) refers to organic knowledge as interpretative. Holford, Jarvis and Griffin (1998:229) further explain that organic knowledge is acquired firstly as declarative knowledge ("knowing what", cognition, storage of facts and language). However, in time, with experience, declarative knowledge develops into procedural knowledge. Procedural knowledge can be described as "knowing how to". Thus procedural knowledge is valued in a knowledge society where competence is valued above performance. An example of procedural knowledge within curriculum development is - learning material that embodies learning concepts situated within the learners' cultural, historical, social political and economic experience juxtaposed with a global perspective.

The researcher suggests that informal learning, in the work place, has the capacity to equip curriculum practitioners with many of the skills that will enable them to

address contemporary issues emanating from a knowledge society. Some of these challenges include developing and implementing an Outcomes Based (OB) training, writing programmes for open, distance and flexible learning (ODFL), on-line learning and policy changes focused on education and training for sustainability and inclusive education. The workplace is viewed as an ideal site for the creation and acquisition of knowledge because it provides: the people (curriculum practitioners, learners, employers); the problem (constantly changing needs, such as market driven curriculum, new technology, diverse clients) and resources to address the problem (access to technology, “old timers”, opportunity to research, equipment, training and the opportunity to reflect on what works and what doesn’t). Professional development therefore becomes an on-going, everyday process of doing, reflecting and practise.

Marsick and Watkins (1990; 2009) refer to work-related training as that which includes all learning acquired in experiential contexts. Informal and incidental learning take place through an on-going dialectical process of action and reflection on daily events that occur in the normal course of work. Examples of informal learning include self-directed learning, trial and error and observing those at work. There are three ways (Marsick & Watkins, 1990) in which informal learning could be enhanced: creativity in approaching problems and generating solutions, proactivity evidenced by readiness to take initiative for learning and critical reflectivity through investigation of not only what worked and did not work but also the assumptions underlying the decision or action. Schon (1983:68) refers to this type of reflection as "reflection in action" which enables reframing of previous understanding of what the problem might be. There is a wealth of research that directs our understanding of the advantages of workplace learning as opposed to formal learning as in the case of institutionally based learning. For example, a report on the UNESCO-UNEVOC online conference (2012:7) highlights the benefits of educators collaborating with industry in relation to maintaining professional standards:

*“Curriculum development to meet the quality standards set by accreditation/certifying bodies close collaborations between teachers and industries are essential...”*

UNESCO and its members consider teacher education as one of its principal priorities (UNESC/UNEVOC, 2012). The 3<sup>rd</sup> International TVET Congress, 13-16 May 2012, Shanghai, China, highlighted the importance of developing “policies and frameworks for professionalizing TVET staff, and developing and strengthening teaching standards for all levels.” Training of TVET educators is seen to have a special link to employment, workplace and technology. This makes it unique in relation to general education and academia and therefore provides motivation for the workplace to be viewed as a strand in a web of prospects for CPD. Tennant and Melville (1999) in their research on “developing professional expertise”, outlined ways in which acknowledged experts account for their professional development. Some of the areas that the research focused on were: expertise in the workplace, learning how to learn from experience, non-formal and formal learning in the development of expertise, workplace learning and ideal organisational supports for learning. These ways of professional development are embedded in the principles of LLL.

Internationally, countries are increasingly recognising the importance of informal learning along with formal learning as a way of acquiring competence. Olakulehin (2010:1) refers to Delor’s four pillars of education - Learning to learn, Learning to do, Learning to live together, and Learning to be. The UNESCO Institute for Education has added a fifth: Learning to change (UIE, 2003). An element of this change is in recognising and valuing what we know and what we can do, much of which is a result of LLL through informal and incidental learning. Mullins (2005) highlights the point that good management, effective communication and trust between employers and employees lays the foundation for motivated, goal oriented staff. He stresses the importance of management creating an environment conducive to growth and development.

## **2.4.2 New Frameworks to Learning**

SONI (2012) presents the concept of investigating new frameworks to learning with the purpose of addressing the accelerating changes in the nature of work and education. These changes include: a) increasing prevalence of “high technology” jobs requiring support for learning on-demand because of the impossibility of covering all concepts through the traditional course method; b) the inevitability of change in the professional life cycle, which requires LLL; and c) the deepening division of opportunities offered to full time, expatriate and contract staff. SONI (2012:6) advises that acquisition of new skills and knowledge cannot be restricted to formal educational settings. She is of the opinion that the traditional training method is unable to provide on-going, real life, problem centred training. In her view it can only provide a snapshot of an evolving technology; therefore effective learning needs to be integrated into the work process. This researcher subscribes to this integrated approach to working and learning and has conducted action research with the aim to explore how key skills could be integrated into the delivery of vocational units in the Hairdressing and Beauty Therapy department at FCTVE (Collymore, 2011).

SONI, similar to Dewey, and Kolb, suggests that by integrating working and learning, people will construct solutions to their immediate problems, and the systems at work will advise them when there is a mistake and provide relevant information. Further to this, the direct usefulness of new knowledge for real problem situations greatly improves the motivation to learn. It is suggested that the time and effort invested in learning are immediately worthwhile to learners. This supports the principle of adults *need to know*. The focus on the relevance and effectiveness of real life experience as a way of learning leads to a discussion of Kolb’s ELT as it provides a theoretical framework for learning from experience.

## **2.5 Kolb’s Experiential Learning Theory**

The theoretical foundation of Kolb’s ELT is based on an epistemology which views ideas as formed and reformed through experience. Concepts in the method are

similar to those in the work of Piaget, Kurt Lewin (1890 – 1947) and John Dewey (1859-1952). These concepts are derived from and continuously modified by experience. This view is distinguished from an epistemology based on behaviourism in which the notion of simplicity and constancy of ideas is central to learning (Tennant, 2006:93). Bruner and Piaget's Cognitive Learning Theory also supports the principle that reflection on experience is a contributing factor to relatively permanent changes in behaviour (Spigner-Littles & Anderson, 1999:204).

Kolb (1984:38) defines learning as the process whereby “knowledge is created through the transformation of experience”. This view supports the prevailing ethos of the knowledge society which is our reality. It is advocated that the concept of learning requires new frameworks as a result of the profound and accelerating changes in the nature of work and education. Literature from OECD (Coe, 2007 )and Bentley and Seltzer (1999) on skills needed in a knowledge society reiterates the need to develop higher order thinking skills such as effective communication, teamwork, problem solving and creative thinking in order to manage the diversity of the work environment.

It is argued that Kolb's four step method enables learners to develop these higher order skills as they engage in the ELT cycle of: a) identification of a concrete, real life problem, b) reflection on the problem, c) formulation of a theory based on generalisation and d) application of the theory. These activities are well suited to the workplace for good reasons.

### **2.5.1 Identification of a concrete Problem**

Identification of a concrete problem is the first step, in ELT, towards a focused, goal oriented, systematic approach to learning. The workplace abounds with concrete experience and problems. Curriculum practitioners themselves have alluded to challenges they experience for which they require training. These have been identified in DTVET reports (2011, 2012, and 2013) and include requests for training in: Outcomes Based Education (OBE), Standard Based Assessment (SBA),

research methodologies, Information Communications Technology (ICT), project management and information management. Theorists in Adult Education reinforce Kolb's concept of learning being more effective when it is contextualised and relevant to learners' everyday work. Caffarella (2002:16) in her discussion on Planning Programmes for Adult Learners stated that one of the purposes for adult education and training programmes was to "assist people in responding to practical problems and issues of adult life." Knowles (1990) identified one of the characteristics of adult learners as readiness to learn once new knowledge will solve their immediate problems. A problem centred approach to learning encourages learners to take ownership and to apply their knowledge and experience towards finding solutions. However, before this can be achieved the second step in the EL cycle, reflection, has to be engaged.

### **2.5.2 Reflection**

Reflection is the second step in Kolb's EL cycle. Kolb (1984) believes that all adults have preconceived ideas about a new topic and therefore this information should be used as a link to new information. Schon (1983:2) directs our attention to reflection as it enables us to look inward on these preconceived values and beliefs which may cause conflict with new information. Kolb (1984:29) recommends that the learning process should begin with bringing out the learner's beliefs and theories, examining them and testing them, and then integrating the new, more refined ideas into the person's belief system. With regard to curriculum practitioners reflecting on their beliefs and theories that influence their professional practice, reflective questions that could be asked are, "To what extent do I value subjective experience as a source of valid information?" Another important question to be asked is, "Where does my perspective on teaching and learning lie on a continuum of learning philosophies: humanistic, learner-centred, lecturer centred, post constructivist?" and "What are the LLL skills that I require to assist me in transforming my perspective to one that embraces change and disequilibrium as a process of my development?"

Kolb (1984:29) highlights the point that learning requires the resolution of conflicts of dialectically opposed methods of adaptation to the world. An example of this

dichotomy for curriculum developers may be a belief in a behaviourist tradition of teaching and learning in TVET such as the Apprenticeship system. Apprenticeship was the first system used in TVET in Botswana (BOTA, 2010:15). The system is based on mirroring and is a strict training program so that learners gain a specific set of skills to prepare themselves for their desired trade or certain career. The flaw in the system is that it does not encourage the development of “procedural knowledge” (why am I doing this; how could it be done differently?) This system is dialectically opposed to the new Outcomes Based Education (OBE), learner centred BTEP which curriculum practitioners are responsible for developing. OBE focuses on learning as a process. In this regard context is more important than content. Critical thinking and problem solving are a critical part of education and training in this system. The result of such conflict, according to Kolb, may be that curriculum practitioners have difficulty in learning new concepts and procedures. Commenting on this phenomenon of theoretical conflict, Argyris and Schon (1974: 54) wondered if the difficulty in learning new theories of action is related to a disposition of learners to protect the old theory in use. An in depth discussion on reflection is beyond the scope of this research. However, Doyle (2007:24) suggests that reflection is a complex activity which needs to be guided by trained facilitators. He refers to Boud and Walker (1998) criticism of incorporating reflection, when it is partly understood, into teaching contexts which are not conducive to the questioning of experience. The researcher is of the view that Argyris and Schon’s reflection- in and -on practice provides a method that supports Kolb’s ELT as they both increase professional effectiveness by closing the gap professionals experience between theories-in-use and espoused theories. This in turn leads to a better understanding of concepts as well as to transforming practitioners. Reflection leads to the next step in Kolb’s EL cycle, developing new theories of action.

### **2.5.3 Formation of abstract Concepts and Generalisations**

The third step in Kolb’s EL cycle is described as “abstract conceptualisation”. He explains that as learners reflect and observe experience, they must be able to create concepts that integrate their observations into logically sound theories. These will be

applied to make decisions and solve problems in the future. An example of forming a generalisation through reflection could be seen through the lens of Knowles' (1980) guiding principle: adults are self-directed learners. Through his experience with teaching adult learners he concluded that adults learn differently from children. This principle has been adopted in many methods of adult learning that are learner-centred. The ability to form concepts and generalisations is a key requisite for surviving change in the knowledge society. Literature on the skills needed for the new millennium workers concurs that workers must be able to apply old stocks of knowledge to new, complex situations. Bentley and Seltzer (1999) are convinced that workers must be creative by using principles in ways that address evolving present day as well as future needs. They (Bentley and Seltzer, 1999: vii) define creative ability as the “application of knowledge and skills in new ways to achieve a valued goal”. The next stage in the EL cycle is application of theory.

#### **2.5.4 Application of Theory**

The fourth stage in the learning process is testing theories on concrete, real live problems. Experiential learning stresses the importance of learning by doing. Application of theory has its challenges. For example, Knowles's learning contract is contradictory to the principle of self-directed learning. The reason is that it is prescriptive and does not apply the principle of experiential, self-directed learning. Tennant (2006:14) alludes to this discrepancy in Knowles's work providing a platform for interrogating the extent to which learners are expected to apply theory to practical situations. Research conducted in South Africa (Hoadley & Jansen, 2009:97) refers to the difficulty in the South African context of implementing curriculum as intended. Their research indicates that while educators are aware of the principles of the new 2005 Outcomes Based curriculum, they have difficulty in implementing them. Hoadley and Jansen (2009) identified several reasons for this problem such as historical, cultural and socioeconomic backgrounds. Application of theory therefore requires everyday practice, reflection and practice until the concept has been assimilated and accommodated. According to Tennant (2006:23) Piaget's research indicates that only when new information is accommodated are new concepts

formed, that is, a new schema or paradigm. The process involves disequilibrium and re-equilibrium. Piaget's theory of disequilibrium and re-equilibrium provides LL learners with a principle to assist them on their journey as they experience the discomfort inherent in qualitative learning and development.

Kolb's ELT provides a holistic approach to learning as a process. The cycle integrates concrete experience with cognition, and views learning as an integrated functioning of the total being - thinking, feeling, perceiving, and behaving. It values individual experience as well as collective reflection on experience. ELT embraces the concept of learning as internal and transformational as well as recognises the impact of social interaction of the learner. Learning is perceived as a process during which knowledge is being recreated. In this regard it provides a framework for the discussion on LLL.

## **2.6 The Emergence of LLL**

LLL as a process was mentioned in an early Faure Report (1972:160) which refers to the new vision of education embracing the whole society and entire lifespan. However, Adams (2007:10) suggests that the concept of lifelong education was advanced as early as 1919 (Ireland, 1978). Cornford (2002:357) outlined the need for learning-to-learn skills and the need for cognitive and metacognitive learning strategies that would enable participation in the new knowledge economies. Several factors were the forerunners for this attention to LLL. First with the decline of the industrial era, dependent on manufacturing for economic development, or the "old world economy", a new look at education became possible. Secondly, the emergence of technology and globalization ushered in the "new world": one in which the economy required a more flexible and integrated approach to education and training. Hake (1999:8) refers to Giddens' report (1991) on the impact of globalization and the access to information, goods and services becoming unrestricted. Accelerated technological advances allied to global competitiveness demanded a change from old forms of production to new, flexible systems. This required continuous innovation and workers who were adaptable and independent thinkers. A third development was the concept of democracy and along with it an

ideology of critical awareness. Marginalised groups were demanding their right to quality education and decent jobs. Theorists such as Freire (1973) and Mezirow (2009) were promoting learning as transformational both to the individual and society. They maintained that individuals and communities had the habit of identifying and solving their own problems. This concept is similar to Knowles' self-directed learner.

It is through an amalgamation of these three developments that policy makers were to recognize that LLL was the key to keep pace with the demands of an open market economy, the proliferation of information and technology as well as the need to address issues of equality and diversity.

The Delors Report (Delors et al., 1996:3) emphasised these issues which continue to be relevant in today:

*“A key to the 21<sup>st</sup> century learning throughout life will be essential for adopting to the evolving requirements of the labour market and for better mastery of the changing time-frames and rhythms of individual existence”.*

Adams (2007:3) states that since knowledge is the foundation of modern economies it means that learning is the central factor for economic and sustainable development. The principles espoused by LLL may be seen as a response to the effects of social, economic and technological change. The discussions on LLL focus on the organisation of education and training for adults in the twenty first century. Hake (1999:79) refers to the impressive range of supporters of the principles of LLL. These include, the OECD, UNESCO and the European Commission, which are the major sponsoring bodies for the proliferation of LLL. It is worth mentioning that The EU, a key player in promoting LLL, has played a major role in supporting Botswana to develop its National Qualifications Framework which embodies the principles of LLL (MOE, 2006). Developments in policy internationally and in government and institutional agencies are the result. In these policies, LLL is perceived as the on-going pursuit of knowledge beyond the mandatory secondary education requirements (Williams, 2009:2). It not only enhances social inclusion, active citizenship and personal development, but also competitiveness and employability.

This concept of whole development is becoming more apparent in international policies on education. Increasingly a holistic approach, which includes LLL, is becoming a value that underpins the philosophy of development.

### **2.6.1 Definition of LLL**

Definitions of LLL serve different purposes, for example some focus on personal development, others on skills development for employment. The British Council's definition is more explicit as it refers to different methods of learning as well as the different beneficiaries:

*“LLL comprises full and part time education and training, work-related training and adult education courses which are designed to meet a range of society and community needs.”*

The European Commission (2001) has defined LLL as formal and informal learning aimed at personal fulfilment, active citizenship, flexibility of employment and social inclusion. This perspective encompasses a holistic approach as it refers to the development of the person as an individual who in turn can participate as an active citizen; who is able to transfer knowledge and skills to new and emerging job roles and is proactive in shaping his social space. This definition supports the perspective of this research as it values education and training aimed at whole person development as opposed to education and training mainly aimed at economic progress. The economic lens of LLL once used to develop, particularly through the TVET sector, education and skills that met labour market demands is now refocused to a more holistic concept of education and training for sustainable development (UNESCO, 2012). In relation to this research sustainable development can be defined as, a shared responsibility for improving the efficiency of practitioners, resources and technology which will provide a long term strategy for creating a better world for present and future generations.

## 2.6.2 Redefinition of Education

In light of the emphasis on sustainability, education has had to be redefined. World leaders have recognised the need to redefine the role of learning beyond education and training for economic development and to focus on education for sustainable development (UNESCO-UNEVOC, 2007; SWEDESD, 2013). Sustainability refers to the advance of the “learning society” in which individuals and the larger society are working towards “critical awareness of themselves and of their environment so that there is shared responsibility for prosperity based on stewardship for our human development and care of the environment” (UNESCO, 2007). This concept is new from a Western perspective but has been the foundation of Ubuntu, an African philosophy of collective responsibility for each other and the environment. The concept is being revitalised to include peace, development which is sound and sustainable and international citizenship (UNESCO\_UNEVOC, 2007:1) As a consequence of LLL being part of a redefined education, policies feature on the agenda of international organizations such as the: OECD’s LLL project “a reality for all”, 1996; UNESCO agenda at the Fifth International Conference on Adult Education(1997), and more recently, UNESCO, Third International Congress on Technical and Vocational Education and Training (2012:19):

*“The key challenge remains to ensure that lifelong learning characteristics of workplace learning are reflected in national TVET strategies and policies. Equally, workplace learning needs to be seen and planned for as part of national strategies for innovation and sustainability”.*

The report goes on to recommend that policy options regarding TVET teachers’ and trainers’ learning, skills and development include, continuous professional development of TVET teachers and trainers. All these indicators point to the need for a focus on CPD as a strategy for addressing the new skills required for educators in the 21<sup>st</sup> century. This is true of southern Africa, not only Botswana.

The Southern African Development Community (SADC) has a common vision for education and training. SADC is a regional economic community comprising 15 countries: Angola, Botswana, Democratic Republic of the Congo (DRC), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. The shared challenge among member states is how to improve economic and social growth while enhancing the benefits from the emerging knowledge economy (SADC, 2011:1). In addressing this vision, developing countries have transformed their concept of education, for example, South Africa's White Paper on Education and Training (1995) refers to the international trend of "integrated approaches toward education and training for curriculum development". LLL through TVET is viewed by SADC countries as a channel for addressing issues of employability, entrepreneurship and economic global competitiveness.

In this respect TVET is seen as a major contributor to development in the region. LLL through TVET is also viewed as an integral part of SADC's progress by international bodies such as UNESCO and the European Union. One of the challenges for education and training in the region has been identified as insufficient qualified TVET educators. Several studies have alluded to this problem. These include: *Better Education for Africa Rise* (BEAR) project 2010-2013; BOTA Study 2010; and Botswana Revised National Policy on Education (RNPE). In attempting to address this issue the SADC Secretariat conducted research in the region to identify strategies and a framework of action. In its report, *Strategic Framework and Programme of Action for TVET in Southern African Region* (2012), staff development was highlighted as a key action point. The report raises the concern that few vocational educators have a sufficiently strong blend of subject specialist knowledge, industrial experience and pedagogical skills. Botswana was one of the few countries cited in the report, which has an institution dedicated to TVET teacher training. Providing support to strengthen TVET educators with training would form part of the regional strategy for staff development. LLL is therefore central to this strategy.

Another initiative to support LLL that has been implemented in some SADC countries is the establishment of National Qualifications Frameworks (NQFs). According to

Barnard (2001:9) from a South African context, NQFs should transform our thinking about education and development in the following ways:

- NQF should enable everybody to acknowledge that all learning is for a purpose, and that good learning can serve the current pressing national priorities such as economic and social development;
- The NQF provides a coherent way of thinking about education and training and how it relates to competence. Any learning must be aimed at making the learner more capable;
- The NQF enables people to recognise that much learning takes place outside the formal delivery systems. Therefore learning achievement should be assessed against national standards;
- The NQF looks at learning from a learner's point of view. This is a move towards being learner-centred;
- The NQF confirms that there are more general capacities, such as communication, problem solving and social interaction that are essential to the formation of fully developed learners.

The South African Qualifications Authority Act 58 of 1995 established the South African Qualifications Framework. This initiative was seen as the answer to a system that denied many South Africans the opportunity for personal development and the chance to participate in the socio-economic development of the country.

Namibia also developed policies that led to the establishment of the Namibian Qualifications Framework in 1996. This wave of liberation for a holistic approach to education and training swept through to Mauritius, which, in 2009 established their Qualifications Authority as well as the National Human Resource Development Council. Their National Human Resource Development Plan 2007-2010 highlights the impact of globalization and free trade on human resource capital. Consequently, LLL is seen as a strategy for addressing the training and reskilling of their workforce (NHRDP, 2007-2010).

The policies which led to these developments were based on the need to transform systems to enable principles of inclusion, accessibility, flexibility and integration. The South African Qualifications Authority Act 58 of 1995 describes many different learning situations that could be recognised and their value assessed and certified.

These include:

- Informal learning in the community, at home or at work;
- School learning-full time or part-time;
- Employer-provided courses;
- Formal or institutional learning;
- Learning through participating in employment-creation;
- Learning through distance learning;
- Instruction in religious classes;
- Learning provided by non-governmental organisations.

Embedded in the concept of NQFs are the principles of LLL which place a high value on the individual's ability to acquire competence informally. This opportunity is facilitated by the concept of Recognition of Prior Learning (RPL), also known as Accreditation of Prior Experiential Learning (APEL). RPL is an assessment process through which prior learning and current competence acquired from informal and non-formal methods of learning is formally recognized (Boud & Soloman, 2001; Van Rooyen, 2003; Gray, Cundell, Hay & O'Neill, 2004) cited in FCTVE Guide to Portfolio Building (2012:3). Persons seeking RPL are advised to systematically record all learning so that it could be presented in a portfolio. Seldin (2004) is of the view that professional portfolios are an effective way of presenting evidence for RPL and for this reason they are increasingly being used by educators to provide evidence of their CPD activities.

In the context of this discussion RPL is one of the LLL strategies that could provide curriculum practitioners in DTVET with the motivation to identify their acquired knowledge and skills, systematically document them against national standards, present a portfolio of evidence for assessment and continue the process of on-the-

job learning in a systematic way. RPL is an assessment method is recognised by all NQAs.

## 2.7 LLL Policies in Botswana

LLL is also one of the main tenets of the Government of Botswana (GOB) Vision 2016 (1997: 7) which states that:

*“All Batswana will have the opportunity for continued and universal education ... Education must be made more flexible, so that people can enter and leave the education system at different times of their live”.*

Botswana’s National Development Plan 9 (2003-09) (NDP 9 15.1) stresses the need “...to create the opportunity for lifelong learning.” The same high level goals are expressed in the Botswana Revised National Policy on Education (RNPE 1994:11). The policy explicitly states that “in order to improve the status and levels of education of teachers, measures will be taken to improve pre-service and in-service training”. In unison with these aims one of the goals of GOB National Human Resource Strategy (NHRS, 2009:17) is:

*“Raising the vision and understanding of the nation by encouraging its citizens to creatively reflect and engage in the development of Botswana through the realisation of their individual capacities and potentials”.*

This commitment to LLL is illustrated in a Life-Cycle Model incorporated in the NHRS (2009:17). In this model LLL is perceived as:

*“...Those learning activities which individuals will engage in throughout their life. The process is usually self- driven, and can be initiated at any time in a person’s life and can include formal education or informal learning”.*

Figure 1 illustrates the LLL values embedded in the Life-Cycle Model.

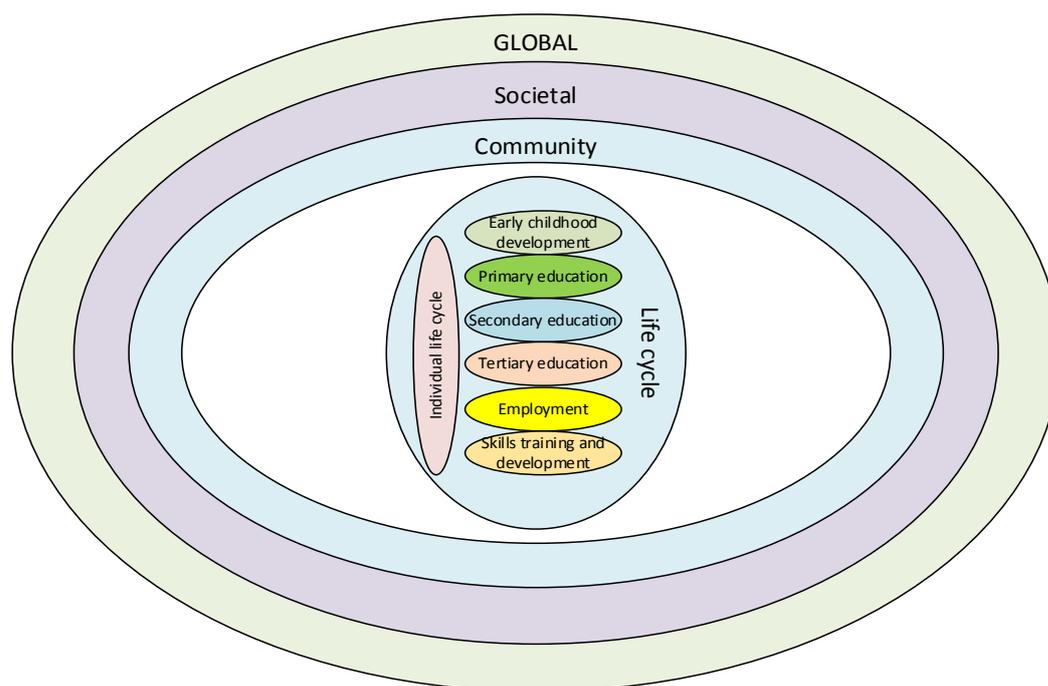


FIGURE 1 LIFELONG LEARNING MODEL SOURCE: DELOITTE (2007)

The model presents the lifelong learner within the frame of a global, societal and community context in which learning occurs. LLL is depicted throughout an individual's six stage life cycle: early childhood development, primary education, secondary education, tertiary education, employment, skills training and development. This model demonstrates the GOB education change in philosophy from a narrow definition of development for economic development to one which upholds UNESCO's broader role of "workforce development and lifelong learning for sustainable development" (UNESCO-UNEVOC Bulletin 2004).

Some of the initiatives taken by the GOB for the implementation of LLL are the establishment of:

BQF, established under the *BQA Act No 24 of 2013*;

HRDC, established under the *HRDC Act No 17 of 2013*;

OBE TVET programme- BTEP guided by BTEP Blueprint developed by MOE, 1998;

Francistown College of Technical Vocational Education (FCTVE) offering Diploma in TVET training (2000) and Certificate in TVET (2010);

BEAR project: MOU, 2010;

Retooling and Reskilling of pre and in-service teachers Project: 2013.

These initiatives demonstrate the emphasis placed on LLL and the CD of educators in Botswana.

## **2.8 LLL Skills required for Participation in the new Economy**

In his model of LLL, Knowles (1980:267) states that LL learners should be divergent thinkers able to identify data to answer questions; locate relevant resources; select and use the most efficient means of collecting data from appropriate sources; organise, analyse and evaluate data so as to get valid answers and to generalise, apply and communicate answers to questions. Skills identified in this model are similar to those identified in some reports (Adams 2007; Williams 2008; BTEP 2010; SAQA, 2005). Kolb's model places emphasis on the individual's natural propensity for self-directed learning linked to solving real life problems.

At institutional level, LLL as a guiding principle is enshrined in the policy of The Centre for Academic Development (CAD) at the University of Botswana (UB). Its policy, guided by the principle of "intentional learning", clearly states that the university puts emphasis on "graduate students being active learners who have learned how to learn and who will make a contribution to society" (UB, 2008:6).

This attention to active learning is an underpinning principle of LLL that this research advocates in relation to CPD. In their seminal article about intentional learning, Bereiter and Scardamalis (1989: 363) use the term to refer to using strategic thinking "processes that have learning as a goal rather than an incidental outcome." Intentional learning presupposes a commitment to learning. The American Accounting Association report (AAA, 2005) on intentional learning defines the term as a "persistent, continual process to acquire, understand, and use of a variety of strategies to improve one's ability to attain and apply knowledge." Five attributes are

identified in the report on intentional learning: questioning, organising, connecting, reflecting and adapting.

This postmodern approach values not only the social environment as the source of learning; it also places a heavy emphasis on the individual (humanist approach). Intentional learners' ability to integrate enables them to connect seemingly disparate situations and refer to a wide range of knowledge and experience to make decisions exemplifying them as LL learners. This is distinct from participating in PD activities which do not result in learning or improvement of professional practice (Williams, 2009). It is envisioned that through a reflective approach to CPD that practitioners will develop the attributes of intentional learning.

Tennant (2006:10) describes a self –directed learner as “one who masters a range of learning techniques and processes.” However, Tennant (2006:20) criticises Knowles’s humanistic approach to learning and instead argues that from a post-modern perspective there is a “decentring of the self ...towards the notion of multiple subjectivities and multiple life worlds....” In my opinion, while it is true that we experience multiple life worlds, educational psychologists postulate that as we go through life developmental stages that a mature person develops organisation skills which enable him/her to bring together different values, resolve conflicts between them, and build an internally consistent value system, accepting responsibility for own behaviour, and accepting own strengths and weaknesses. Havinghurst (1972:2) points out that “the two basic principles of education are knowing and valuing”. He recommends that:

*“The modern world needs people with a complex identity who are intellectually autonomous and prepared to cope with uncertainty; who are able to tolerate ambiguity and not be driven by fear into a rigid, single-solution approach to problems, who are rational, foresightful and who look for facts; who can draw inferences and can control their behaviour in the light of foreseen consequences, who are altruistic and enjoy doing for others, and who understand social forces and trends.”*

Adams (2007:4) conveys the concept of “learning engagement” and “disposition” as central to LLL. He further describes the LL learner as: an organiser; communicator; change agent; researcher; goal setter; people person; and multi-literate which he explains as having strong basic literacy and numeracy skills as well as Information Communication Technology (ICT). CAD, UB (2008:5) identified the following attributes that graduate students must possess:

information and communication technology

- self-directed, lifelong learning
- problem-solving
- communication
- critical and creative thinking
- organisational and teamwork
- research and information literacy

Williams’ report (2009:8) on the competencies needed by Vocational Education Trainers (VET) practitioners in Australia highlighted the importance of LLL as a strategy to address contemporary issues. In another study Loveder (2005:2) refers to challenges directly affecting professional practice of adult educators, requiring them to possess LLL skills. Challenges faced by adult educators reported in the study include: changes in clients, advances in technology, flexible approaches to teaching and learning and increase in workload.

These findings on LLL skills are congruent with the “critical cross-field outcomes” which have been identified by South African Qualifications Authority (SAQA: 1995), Organisation for Cooperation and Development (OECD), Certificate in Technical Vocational Education and Training (CTVET: 2010), CAD (2008) (UB) and in the Blueprint for BTEP (2010).

The literature on LLL clearly establishes the importance of these attributes for effective and creative participation in a world driven by technology. Table 1 below, presents an overview of the LLL skills/attributes which have been identified as

mandatory components of education programmes internationally, regionally, and locally (in TVET and at Tertiary level).

Table 1 Attributes Considered Mandatory for Learning Programmes

Attributes	OECD	SAQA	UB. CAD	BTEP
Research		•	•	
Knowledge & understanding of the world as a set of related systems		•		
Information literacy		•	•	
Problem solving	•	•	•	•
Critical thinking		•	•	
Adapting to change		•		
Creative thinking		•	•	
Communication	•	•	•	
Interdependence	•	•	•	
Cultural awareness	•	•	•	
Self-awareness and personal development	•	•	•	•
Self-management	•	•	•	
Numeracy				•
Information communication technology			•	•
Entrepreneurship		•		•
Employability		•		

Accountability skills		•		
Self-directed, LLL skills		•	•	
Organisational skills			•	
Social responsibility		•		
Leadership				
Contributing to social and economic development of society		•		
Contributing to the personal development of learners		•		

Adapted from SAQA, William's Report, UB Policy for CAD, BTEP Blueprint

Ornstein and Hunkins (2004:212) inform us that “in a post- modern world learning assumes openness to process, an eye for the unexpected and readiness to interact with systems as they evolve.” Critical thinking, problem solving self-awareness and personal development are some of the core skills most frequently identified as those which enable individuals to navigate postmodernity

### 2.8.1 Problem Solving

Doyle (2007: 200) says that the focus on reflexivity signifies the increase in options and choices which necessitates decision-making in a period of increasing uncertainty. UNESCO's report, Revisiting Lifelong Learning for the 21<sup>st</sup> Century (2012:19), emphasises problem solving skills in the context of learners' need to be reactive (why we make mistakes) as well as pro-active (predicting difficult and problematic situations and coping with them). The ability to think on one's feet as well as to reflect is therefore a key attribute of a LL learner. Nowadays problem solving refers not only to identifying solutions to given problems but also to adapting old information and solutions to new challenges. It is a prerequisite for surviving the world of work at all levels, for learners and teachers.

## 2.8.2 Self-Awareness and Personal Development

Research shows that another two skills are required in today's world, namely self-awareness and personal development. They are discussed within the framework of metacognition. Lawson et al, (2006:22) defined metacognition as knowledge about the self which is used to plan, monitor and reflect on actions and current situations. Similarly, Louw, Van Ede and Louw (1998: 255) describe metacognition as becoming conscious of one's own way of thinking. It is a key characteristic of self-directed learning. Theorists have found that metacognitive skills relate to the affective domain. They reflect our attitude towards learning. The following descriptions of skills and possible actions as their outcome in Table 2 have been adapted from Bloom's Taxonomy (1956).

TABLE 2 METACOGNITIVE SKILLS

<b>Metacognitive skills</b>	<b>Actions involved</b>
Receiving	willingness to attend to particular phenomena such as sensitivity to human needs and social problems, acceptance of differences of sociocultural and racial backgrounds, attention to different learning styles
Responding	active participation as a professional educator, e.g. participating in social networks or webinars where discussions on relevant contemporary educational concepts and methodologies are explored
Organising	bringing together different values, resolving conflicts and building an internally consistent value system, accepting responsibility for own behaviour, accepting own strengths and weaknesses
Valuing	belief in the democratic process, e.g. education for sustainable development - based on the individual's internalisation of a set of specified values expressed in overt behaviour
characterisation by a value or complex values	educators should have a value system that is consistent with his/her lifestyle, for example 'a commitment to "greening TVET," and continuous professional development

These skills are the foundation for CPD in a postmodern era characterised by change and the reality of living at a time when the unknown is as much a reality as is the known. Reflection and adaptation are key attributes for surviving in the world of work currently. More importantly, they enable the development of self-identity based on a value system that is consistent with lifestyle. CPD is therefore not merely a requirement to be met for progression and maintaining licenseship but a necessity for every individual to stay within the loop of professional and personal development and progress in a globalised world.

## **2.9 Continuous Professional Development: a Global Phenomenon**

The demand for educators to engage continuously in learning has intensified with the pressure of globalisation and neo-liberal policies which link education and training to economic development (Mhozya et al, 2012:3). In many western countries such as the United States of America, Canada and United Kingdom, CPD is mandatory and comes in many forms - short courses, in-service education and training, or long term LLL for career development (Brownlee; Purdie & Boulto-Lewis, 2001) cited in Mhozya et al. (2012:19). Bentley and Seltzer (1999) highlighted the fact that employee education is growing 10,000 percent (100 times) faster than academia. This phenomenon is causing a shift in focus from traditional learners at institutions to programmes for adult learners. Botswana, through its RNPE 4 (1994:47), has addressed the need for training of teachers beyond pre-service qualifications. The policy states, "Heads, as institutional leaders, together with the deputy and senior teacher, should take major responsibility for in-service training of teachers... ". This global trend of continuing development for educators provides a framework for the discussion on the training and retooling of educators as presented in the next section.

### **2.9.1 The Need for CPD in Botswana Context**

The Botswana National Credit Qualifications Unit (BNCQU, 2013) under the Human Resource Development Council (HRDC) identified professional development of

TVET teachers as a key factor in ensuring that Botswana's education reform is effective. Botswana is committed to transforming its economy from resource based to knowledge based. This change requires increasing and upgrading human resource capacity.

Results from a study conducted for Botswana Training Authority (BOTA, 2010:14) revealed the dire need for training and retraining of TVET educators as a result of the new TVET landscape which includes the trend towards OBE, LLL policies and their supporting structures such as the NQF. This need for retraining of TVET teachers is evident in the decision by the GOB to establish the FCTVE in 2010, with a mandate to enrol in-service teachers (RNPE, 1994). More recently, the DTVET and BOTA have collaborated in developing a Certificate in TVET targeting in-service lecturers who are unable to meet the entry level requirements to access the Diploma in TVET (MOU, 2010-2013). This qualification offers RPL, recognising lecturers' on-the-job learning and skills. Retooling of TVET teachers has also been identified as one of the objectives of the BEAR Project (2010-2015), (this project is jointly funded by The Republic of South Korea and UNESCO).

In recognition of the need for staff training, DTVET provides BTEP Phase Training I-IV, for curriculum practitioners. Practitioners, however, have complained that this training is insufficient and does not provide practical training (DTVET, 2012). This research seeks to address this complaint by exploring the LLL skills practitioners require to engage in self-directed, on-the-job, informal learning as a strategy for CPD.

## **2.10 Training and retooling Educators**

UNESCO (2012:19) highlights CPD of TVET teachers and trainers as one of the key policy options in respect of TVET trainers' learning, skills and career development. It is advocated that CPD will provide the opportunity for practitioners to work within an environment that is moving towards several goals, namely:

- classrooms without walls;
- flexible methods of delivery;

- continuous assessment as opposed to traditional exams;
- portfolio based assessment;
- integrative approach to teaching and learning;
- action research;
- working in meta paradigms such as humanism and constructivism;
- research as an integral part of their professional development.

Literature on adult learning methodologies emphasises the need to shift from lecturer-centred delivery to a learner-centred, experiential learning approach. Eisner (1995) cited in Hoadley & Janson (2011: 276) offers five basic orientations to curriculum: a) development of learners' cognitive processes (strengthening the "muscles" of the mind); b) academic rationalism (strengthening the intellectual growth of learners in subjects most worthy of study); c) personal relevance (value learners' participation in the teaching and learning process); d) social adaptation and social reconstruction relate learning objectives to social needs as well as develop critical consciousness so that learners are aware of social ills and ways of alleviating them; and e) curriculum as technology (curriculum planning as a technical undertaking, e.g. Tyler's method). According to this orientation curriculum is an open method focusing on learning as a process and less on content. The role of curriculum practitioners, like teachers, is more that of a guide and co-participant in the learning process. Doll (1993: 168) advocates for a narrative or interpretative method of teaching and learning. The assumption is that meanings are made (constructed) through dialogue. He concludes that curriculum needs both logical definition and creative imagination. Based on these perspectives educators will need to adopt a new epistemology based on a narrative approach and appreciative inquiry to learning. Personal experience and self-development are valued in this thinking. Educators will also need to provide curricula that address the skills required in the economy as well as those that build foresight intelligence. They would need to become facilitators of learning. This requires an integrative approach to education and training as well as the ability to adapt teaching and learning to emerging issues. Educators in this context would be continually engaged in learning and relearning

through the life cycle of their careers. This picture provides us with a framework to discuss the value of CPD.

### **2.11 The Value of CPD**

CPD has been defined as the systematic maintenance, improvement and broadening of knowledge, skills and competence throughout a professional's working life (Kostadinovic, 2011) cited in Mhozya et al (2012:19). It is an emerging global phenomenon for increasing educators' effectiveness and efficiency. The Institute for Learning (IFL), 2009, defines CPD as the critical reflection on learning experiences and activities that improves practice, and demonstrates continuous development as a teacher or trainer. The European Commission (2010:6) describes professional development for teachers as a LLL process consisting of different stages: initial teacher education; induction and in-service CPD. There are varying reasons for engagement in CPD. For example, Williams (2009: 2) informs us that knowledge skills and attitude acquired through CPD can:

- provide employers with evidence for promoting employees;
- facilitate access to more specialised structured training;
- increase theoretical knowledge and in depth understandings of practices, for example, moving from procedural knowledge to declarative knowledge;
- enable licensing with professional bodies;
- provide an opportunity for retooling and up skilling to function effectively in modern working life.

Given these benefits it is not surprising that a growing body of research on CPD has shown that the kinds of professional development which have the most impact are based on professional dialogue about teaching and learning, and improvements of practice through a variety of activities, including: coaching, mentoring, shadowing and peer support. The need for CPD in the context of Botswana requires methods which are different from other localities and are particularly of a transformational kind. Such a model would integrate several methods. This is in line with the eclectic nature of curriculum in our postmodern world.

According to the BNCQU (2013:7) professional development promotes the recognition of teachers' work, new opportunities for growth, exploration, learning and development. The report goes on to advise that quality professional development can also lead to important qualitative outcomes such as the creation of a positive culture, improvement in individual teacher skills and development of opportunities for peer learning. Professional development gives educators the tools they need to approach learning challenges in adult education with confidence and to access the professional community for support. However, CPD is not without challenges. These challenges could be seen from the perspective of the adult learner as well as institutions. These have been discussed earlier.

### 2.11.1 Models of CPD

There are three broad categories of models, *Transmission*, *Transition* and *Transformative* (Kennedy, 2005). A variety of methods is used to implement them. The purposes of the methods are to transmit forms of knowledge, to transit from one form of knowledge to another and to transform. Eight models of CPD are presented. Each has different categories and characteristics. The models are contextualised; forms of knowledge which can be developed through a particular model are given.

TABLE 3 METHODS OF CPD AND THEIR INTENDED PURPOSES

Methods of CPD	Purpose of Methods
Training method Award-bearing method Deficit method Cascade method	Transmission Model
Standards-based method Coaching/mentoring method Community of practice method	Transitional Model
Action research method Multi- methods	Transformative Model

Increasing capacity for professional autonomy



Adapted from Kennedy(2005).

In the Transmission model, there are four methods of ensuring transmission. They are Training, Award bearing, Deficit and Cascade methods. In the Transition model, there are three methods, namely, Standards, Coaching/Mentoring and Community of practice method. Finally in the Transformative model there are the Action research method and Multi methods.

**a) Transmission Model**

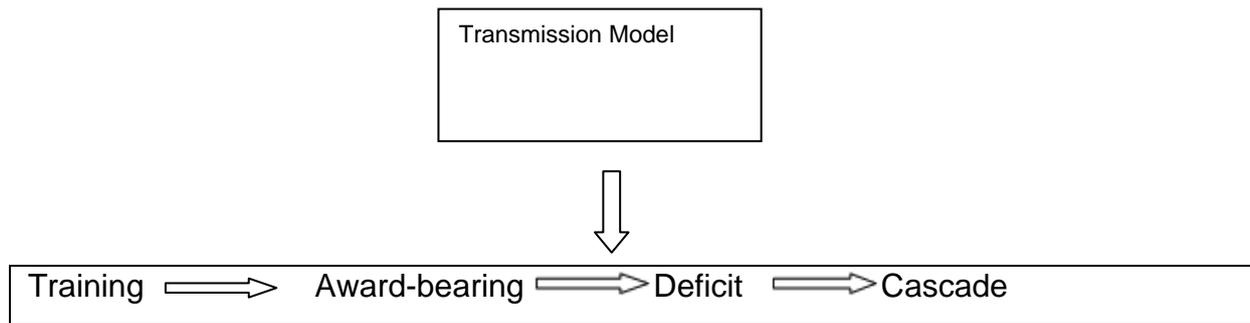


FIGURE 2 TRANSMISSION MODEL

- *Training method*

The training method is universally recognized as the dominant form of CPD. This is no different in DTVET where this training method is used to deliver BTEP Phase Training to curriculum practitioners and lecturers. Kennedy (2005: 237) refers to Day (1999) who is of the view that one of the difficulties with training is that it fails to “connect with the essential moral purposes that are at the heart of their (teachers’) professionalism”. The method is efficient in that it is able to address several issues to large numbers of participants. However, the disadvantage is that it is usually conducted off-site and therefore does not present an opportunity for real problems and solutions to be addressed. This is a major drawback since in the previous discussions, literature on CPD emphasises the importance of the situatedness of learning.

- *The award-bearing method*

Kennedy (2005:238) describes an award-bearing method as one that relies on the completion of an award and its validation by an external body. An example of this in the Botswana context is the new criterion stipulated by BQA, that all trainers must

acquire trainer qualifications and Standard Based Assessment accreditation. This external validation establishes a mark of quality assurance. While the value of quality assurance is recognised as important, in the context of this research, CPD has been discussed within the framework of the adult learner being self-directed and intrinsically motivated to pursue learning. Kennedy highlights the point that award-bearing courses may reflect particular ideological imperatives potentially at the expense of academic and intellectual autonomy. An award-bearing method should be an integral part of CPD; however, the discussion in this study is focused on learning through work based experience and therefore advocates that practitioners could accumulate evidence of competence through on-the-job experience which can be presented to an accreditation body for RPL and accreditation.

- *The deficit method*

The deficit method uses CPD to remedy perceived weaknesses in individual teachers. The method attributes poor performance to the individual and declines to view performance as collective responsibility. Kennedy (2005: 239) emphasises the point that this method assumes the need for a baseline measure of competence, which has an authority of its own. Kennedy refers to Boreham's argument (2004:9) that collective competence is more effective than the above and is dependent on leadership which promotes particular conditions, for example: making collective sense of events in the workplace; developing and using a collective knowledge base; and developing a sense of interdependency. The deficit method of CPD which attributes blame for perceived under performance to individuals and fails to apply the concept of appreciative inquiry and collective responsibility which have been identified as a philosophy characteristic of postmodernism, is not ideal. While practitioners are viewed as self-directed learners, "learning in community" is effective because it provides real work-based problems, systems to guide problem solving, increased skills development and a deeper understanding of the underlying principles and theories that inform practice.

- *The cascade method*

The cascade method is a concept based on individual teachers attending training events and then disseminating the information to colleagues. Kennedy (2005:240) refers to Soloman and Tresman's (1999) critique of this method. They are of the opinion that what is passed on in the cascading process is generally skills-focused.

Teacher education needs to shift from the technical to also embrace questions of “why”. Cascading only provides a snapshot of the training content. This method, while useful as a short term measure, lacks the potential to provide practitioners with in-depth knowledge to enable critical thinking and transfer of skills.

The above methods: training, award-bearing, deficit and cascade have been categorised under the Transmission model, meaning it is lecture- centred; explanatory as opposed to exploratory and thus fails to provide the type of higher level cognitive development that is required of workers in a knowledge society. However, while these methods lie on the transmission end of a continuum, facilitators of these methods could introduce activities, tasks, and problems that are derived directly from participants’ work context. Facilitators could also ask participants to form groups to discuss problems and thereby collectively identify solutions which could be applied to their work. These are just a few examples of using an exploratory approach in the transmission model, bringing it closer on the continuum to a transactional and transformational model of CPD.

## b) Transitional Model

The transitional model has a standards-based method, a coaching/mentoring one and operates in a community of practice setting.

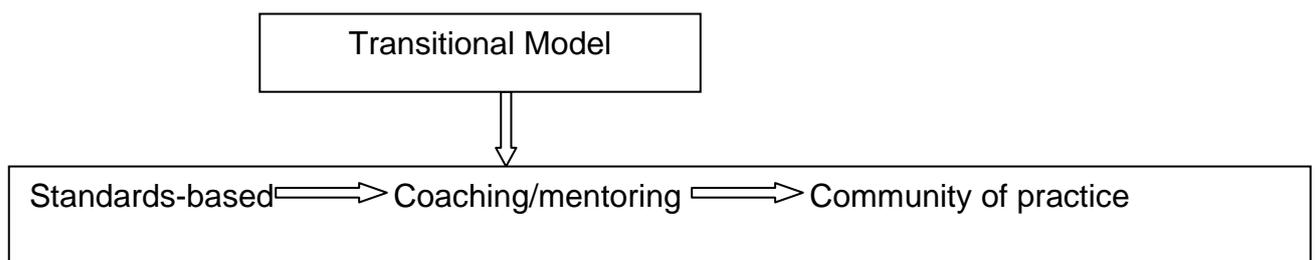


FIGURE 3 THE TRANSITIONAL MODEL

- *Standards based method*

The standards method is inadequate because of its focus on scientific rationale. (Kennedy 2005: 241) argues that the method relies on a behaviourist perspective of learning, focusing on the competence of individual teachers and rewards resulting from performance. This, she says, is done at the expense of collaborative learning. Other critics highlight the trend of narrowing the range of potential teaching conceptions to focus on quality assurance and accountability. Another criticism is the method's link to improved economic status at the expense of a critical review of beliefs and values that inform practice. It is therefore seen as opposed to a transformation. Usher (1997:143) posits that professional practice should be viewed from the perspective of "artful doing" as opposed to "technical rationality". "Artful doing" presents a departure from the focus of professional knowledge as "technical rationality," for example, the standards-based model which breaks down teaching into discrete tasks and at the same time neglects to value teaching as a complex activity which is situated. However, the standards-based method has the advantage of clearly defining learning objectives which could be achieved using creative approaches to learning and assessment such as building a portfolio of evidence against set criteria. A portfolio enables learners and assessors to evaluate the learning process and in turn any transformation that has taken place in the learner's teaching philosophy, for example, a shift from a behaviourist to a constructivist approach. Examples of this shift could include reference to case studies, and letters of reflection from all stakeholders in the learning scenario.

- *The coaching/ mentoring method*

The coaching/mentoring method encompasses a variety of CPD practices which are based on a range of philosophical premises (Kennedy, 2005:242). However, the distinctive characteristic of this method is the emphasis on one-to-one relationship between two educators, which is designed to support CPD. Key to this method, is the view that professional learning can take place within the school context and can be enhanced by colleagues using dialogue. This method provides a more equitable approach than those previously discussed. Robbins (cited in Kennedy, 2005:243) defines peer coaching as:

*“A confidential process through which two or more colleagues work together to reflect upon current practices; expand, refine and build new skills; share ideas; conduct action research; teach one another, or problem solve within the workplace”.*

This importance of confidentiality as opposed to accountability places this method within the framework of a transitional or transformative conception of CPD. The reason is that it emphasises context and dialogue as opposed to a standards approach (focused on the outcome and performance). The method is associated with the next method, Community of Practice.

- *The community of practice method*

The community of practice method differs from the mentoring/coaching method in that the community of practice generally involves more than two people and does not rely on confidentiality. Kennedy refers to Boreham’s (2000:505) view that learning in communities adds value to the learning experience. He states that the existence of individual knowledge and the combinations of several individuals’ knowledge through practice is a powerful site for creation of new knowledge. In relation to practitioners, communities of practice could be based on working in teams within DTVET and/or working in industry with experts. The UNESCO Report (2012:7) on the online conference clearly states that close collaboration with industry provides TVET educators with the opportunity to access information concerning the latest technologies used within industry, which can form the basis of suitable teaching modules. The report goes on to say that for curriculum development to meet the quality standards set by accreditation/certifying bodies, close collaboration between educators and industries is essential. This collaborative approach is certain to bring about critical awareness of practitioners’ held beliefs, values and daily practice. It is therefore coming closer to a transformational model of CPD.

### c) Transformative Model

In this model, Action research and Multi methods are the methods used.

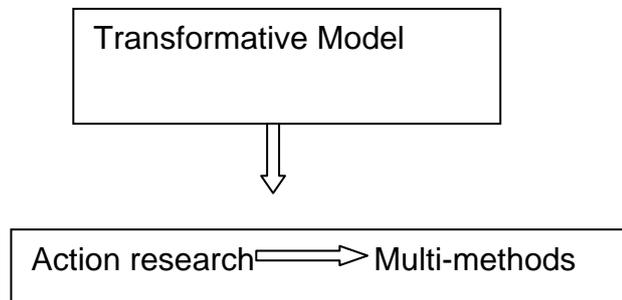


FIGURE 4 TRANSFORMATIVE MODEL

- *The action research method*

Kennedy refers to Somekh (cited in Day, 1999:34) who defined action research as “the study of social situation, involving the participants themselves as researchers, with a view to improving the quality of action within”. Proponents of action research suggest that it has a greater impact when shared in a community of practice. It must be noted however, that community of practice is not a pre-requisite for action research. Weiner (2002:5) states that, “action research has practitioner development and transformation as its main aim”. Action research provides educators with the opportunity to actively evaluate their day to day practices, reflect on them, and develop better ways of implementation. In this respect action research has the capacity for transformative practice as practitioners are themselves involved in identifying the problem, exploring various solutions and agreeing on one as a way of improving practice. Action research encompasses the principles for transformation; these are collaboration, critical thinking and a change in the way things have been done to a better more effective and efficient way.

- *Multi-methods*

Multi methods refer to the use of a combination of the above methods appropriate to the learning objective, learner profile, time constraints and available resources. This method is supported by the concept of postmodernism - practitioners must be conversant with their technical knowledge, experts in a range of instructional designs and be able to apply all of them appropriately to the learning at hand.

A transformative CPD model is characterised by an effective integration of a range of methods and provides an antidote to the restrictive nature of the transmission method (training, award-bearing, deficit and cascade) and to a less extent the transactional methods (standards-based, coaching/mentoring, community of practice) of CPD (Kennedy, 2005: 246).

Transmission and transactional models are characterised by the standards accountability and performance lens of “technical rationality” as opposed to practice (Kennedy, 2005:235). The transformational model can be described as a post structuralist approach to CPD; it presents an opportunity for a balance between various types of methods, strategies and activities. This eclecticism is characteristic of postmodernism.

Kennedy argues that activities which provide development through this model are self-directed and include: action research, self-reflection, individual growth plans, professional portfolios and journaling. From this perspective CPD becomes an activity through which curriculum practitioners are reflective in and on their professional practice, their beliefs and values as well as on their technical competence. The Centre for Learning and Professional Development (CLPD), University of Adelaide, informs us that CPD should incorporate curriculum practitioners’ reflection on issues such as: their guiding philosophy of their professional practice; a scholarly reflection of their curriculum development and the principles that inform their approach to academic work; a critical reflection of their teaching and learning activities and their impact on lecturers and learners from the perspective of LLL principles, e.g. learner centred approaches, flexible delivery and open access. Further, the Centre suggests there should be a critical reflection on their cognitive and metacognitive skills (knowledge about themselves); a critical reflection on the situatedness of their learning, giving consideration to a variety of informal learning opportunities and a critical reflection on the impact of different types of CPD methods and their associated activities, for example training versus action research.

## 2.12 Planning CPD

To engage intentional learning for CPD curriculum practitioners will need a plan. The CLPD at University of Adelaide offers a simple model that combines the art and science of PD (CLPD Manual, 2005:3). The art refers to the creativity and imagination necessary to produce an innovative and effective CPD plan; the science is necessary to systematically develop an evidenced based plan that meets individual as well as organisational needs, achieves its goals and can be evaluated using data.

### 2.12.1 A model for planning CPD

The plan is similar to the professional inquiry and action research process: plan→act→evaluate→improve. This model is based on developing a professional portfolio of evidence to demonstrate that learning has occurred. Portfolios also provide opportunities for reflection on practice. Through reflection, curriculum practitioners will be able to identify a problem-centred learning activity; determine the scope of work, duties and responsibilities involved in the learning experience and provide a baseline for identifying training needs accompanied by professional development strategies and activities to address needs (Figure 5).

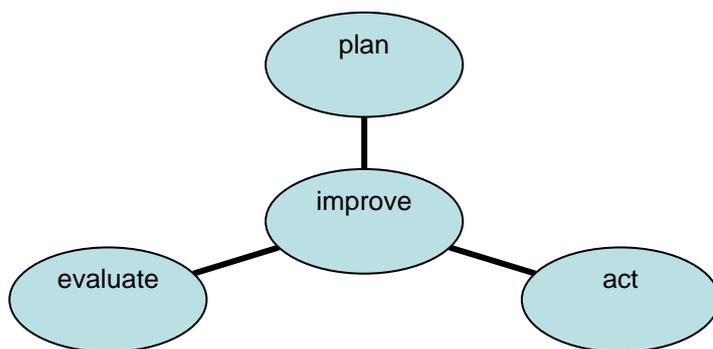


FIGURE 5 PLANNING MODEL FOR CPD.

ADAPTED FROM CLPD, UNIVERSITY OF ADELAIDE.

## 2.12.2 Portfolio Evidence

Portfolios are a practical way for recording CPD activities. Portfolios contain evidence of formal and informal training learning and document the process of development accompanied by reflection. Informal learning could include conference presentations, participation in webinars, project and focused discussions. However, Williams (2009) informs us that simply participating in professional development activities does not imply that professional learning has occurred. Therefore, portfolio evidence must be augmented by evidence of application of new learning, evaluation of its impact and a plan to improve performance.

Compiling portfolio evidence demonstrates commitment to LLL and professional development. Lawson et al (2006: 27) guide our understanding of how portfolios demonstrate the attributes of a LL learner; this should be prominent in a professional portfolio. Table 4 shows attributes in LL learners. The researcher has added what the professional development benefits might be as well as ultimate curriculum benefits:

TABLE 4 ATTRIBUTES OF THE LL LEARNER

<b>Attributes of LL Learner</b>	<b>Professional Development benefits</b>	<b>Curriculum benefits</b>
Awareness of purpose; self-awareness of adaptive dispositions for learning and action	Confidence and flexibility and reflectiveness	Assurance in aligning development of the curriculum with experiential learning activities, teaching learners to adapt
Ability to recognise and manage the positive and negative emotions associated with learning	Capacity to persist and be conscientious; creative thinking skills developed	Develop curriculum which gives other learners a positive approach to the ups and down of learning

Knowledge of how to learn	Clarity; metacognitive skills development; reflectiveness; learners are researchers	Reassessment of what expectations of learners one has for their learning
Knowledge about effective learning strategies	Flexibility	Range of possibilities to accommodate differing learning strategies, such as action research and flexibility in delivery
Knowledge of how to regulate and monitor learning and learning resources	New knowledge leads to confidence; development of meta-cognitive skills	Learners benefit from a curriculum which integrates learning and learning resources which are checked for quality and accessibility
Interdependence - ability to interact with others in learning for individual and group purposes	Potential to work as a community of practice; effective communication skills; teamwork	Curriculum benefits from collective knowledge and experience
Situatedness - appreciation of the impact of context upon construction and application of knowledge	Moral purposes exposed in solving real everyday problems honestly	Curriculum can pass on knowledge of problem solving from real experience
Personal qualities - persistence and resilience; awareness of change in LLL skills	Development of persistence and resilience so that there is less likelihood of taking shortcuts; development of reflectiveness	

These discussions were aimed at highlighting the effectiveness of the transformational method of CPD. It is transformational because it involves active participation of learners with their everyday practice, and problems. It is aligned to the theoretical frameworks which underpin the discussions in this literature review, that is, Lave & Wenger's theory of "situated learning" and Kolb's ELT.

### **2.13 Conclusion**

The literature review highlighted the phenomenon of technology liberating learning and shifting from traditional forms of learning to the learner who is described as self-directed. Experts guiding our understanding of the value and prevalence of informal learning opportunities in the work place suggest that adults are intrinsically motivated, self-directed learners. Nevertheless adult learners face challenges. The transformational method of CPD aids the actions of reflection, reflexivity and transformation, the ideals of a postmodern learner and curriculumist. The concept of professional knowledge as "artful doing" as opposed to "technical rationality" was supported by a discussion on the importance of developing metacognitive skills, that is, learning- to -learn through knowledge of self.

## **Chapter 3: Research Design and Methodology**

### **3 INTRODUCTION**

This chapter discusses the research design and methodology which were applied in the study. A mixed design was selected as it enabled the researcher to explore the perceptions held by a select group of curriculum practitioners, their LL learning skills and strategies which are required to improve their CPD. The results of the literature review in the previous chapter indicated that, although there was international research to address the problem, very little attention has been given to the professional development of curriculum practitioners within the TVET sector in Botswana. To determine the LL learning strategies to enhance practitioners' professional development in the context of Botswana, an empirical study was conducted.

The rationale for an empirical study is briefly described as it supports the choice of research instruments selected for the study. The research was a process of providing descriptive details of the participants' perspectives on the research questions.

#### **3.1 Rationale for empirical Study**

An empirical study is one in which the researcher is guided by evidence acquired by applying systematic research techniques as opposed to acting on opinions (McMillan & Schumacher, 2006:10). Empirical research requires data collection followed by the logical interpretation of the researcher. The foundations on which social scientists work are referred to as their cosmological (about the universe), ontological (nature of existence) and epistemological (what is valid knowledge) positions. These shape the approach to the theory and methods applied to the study and are grounded deeply in the researcher's assumptions and beliefs about the world (McMillan & Schumacher: 2010:6). The review of literature presented in Chapter Two provided this study with a solid scientifically based theoretical framework. The framework motivated the choice of the research design and the content of the research instruments since it provided a postmodern orientation to the epistemological and ontological positions in regard to

research, education, training and development. According to this world view knowledge is a phenomenon to be explored and interpreted. Objective and subjective information are valid ways of knowing (Tennant, 2006:128). Based on this perspective the researcher selected a mixed design to elicit both qualitative and quantitative data to answer the research question. A mixed design has the advantage of ensuring validity and reliability of the research instruments and handling of data through a process of triangulation. Triangulation will provide the researcher with a systematic comparison of findings on the same research topics, generated by different research methods (Bloor & Wood, 2006:170).

The field of education has undergone a paradigm shift from a model based on "technical rationality" to a model that is holistic, heuristic and integrative" (de Vos et al, 2005:75) and is characteristic of postmodernism. Ideas about cosmology characterise it as complex, fluid and emergent (Doll, 1986:10-16). Research designs and methodologies have evolved from positivism to post-positivism to interpretive/constructivist. McMillan and Schumacher (2010:5) define positivism as "a rationalistic view of knowledge with single entities". Knowledge which is valued is obtained through logic, and analytical method. From a positivist perspective the researcher is an observer on the periphery, recording phenomena in order produce causal explanations of what already exists. The main criticism of the modernist epistemology is that it does not value a person's subjective meanings. Doll (1993:126) refers to Reichenbach (1951) who posits that it is subjective meanings which form the heart of personal experience and in the process of transformation gives us an experiential epistemology.

To address the shortcomings of modernism, post-positivism emerged after World War II (1939-1945) and the industrial revolution in the 1940s (Hoadley & Jansen, 2009). This perspective allows for multiple uses of theories, and contextual factors within research. A third paradigm for generating knowledge is interpretive/constructivist. Researchers within this paradigm postulate that there are multiple socially constructed realities. Reality is relative; Bruner (1986) refers to constructivism as metaphorical, narrative, and hermeneutical. The method is complementary to the logical, analytical and scientific method of thought. The

difference between these two views is that the analytical is *explanatory* while the narrative is *interpretive*. The assumption in the latter is that we are not onlookers to reality. We are at the centre of our world constructing meanings through dialogue. Tennant (2006:122) refers to Horton's view that "an unanalysed experience is a kind of a happening" which does not develop knowledge (Horton, 1986). This need for dialogue and reflection is a key concept in a new epistemology based on transformation. A foundation concept within this paradigm is that the whole is greater than the sum of its parts (de Vos, et al, 2005:75).

In today's world, post-modernists are subscribing to a new philosophy of progressivism and constructivism from which education is seen through a transformational lens. Delors report (1996:21) advises that learning must engage individuals in a continuous process of forming whole beings, developing knowledge, aptitude, and the critical faculty and ability to act. These are the motivating factors which were influential in the researcher selecting a mixed design. Through this method the researcher had the opportunity to interact closely with participants enabling her to elicit rich information concerning participants' perceptions about the barriers to their continuous development. Instead of being on the outside, this method allowed the researcher to interact face-to-face with each participant during semi-structured interviews and focus group discussions (McMillan & Schumacher, 2006:350). The use of questionnaires added a dimension of objectivity as the data from those helped to dispel biases that may have occurred during the collection of qualitative data collection (McMillan & Schumacher, 2010:399). This multiple approach to data collection is within the framework of a postmodern epistemology which values both objective and subjective knowledge. The researcher's ontological position can therefore be described as a realist as she operated within two paradigms: positivism which values objectivity as well as relativism which values personal experience as a way of knowing.

## **3.2 Research Design**

Research design refers to the procedures for conducting a study. Procedures include, when, from whom, and under what conditions the data were obtained. The research design can be described as a plan outlining how the research is set up, what happens to the subjects, and what methods of data collection were used. According to McMillan and Schumacher (2010: 20) the intent is to use a design that will result in eliciting the most valid, credible conclusions from the answers to the research questions.

There are two basic research designs, qualitative and quantitative. Recently researchers are using a mixed method research design which includes both qualitative and quantitative methods to answer research questions (Creswell, 2008).

### **3.2.1 Qualitative Research Designs**

Researchers using a qualitative research design gather data on naturally occurring phenomena. Creswell (1998:16) suggests that in qualitative designs the researcher can tell the story from the point of view of the participants rather than an expert who passes judgment on participants. deVos et al (2010: 268) refer to design in the qualitative context as “the entire process of research from conceptualizing a problem, to writing the narrative”. Qualitative research design differs inherently from the quantitative research design in that it does not usually provide the researcher with a detailed plan to follow (McMillan & Schumacher, 2010:323). Qualitative design encompasses an iterative, recursive process of visiting and revisiting data to develop a deep understanding of participants’ experiences. It moves from specific to general information. In this way it is referred to as an emergent design (Creswell, 2007:37). In qualitative designs inductive reasoning is used to analyse data - analysis in which categories and patterns emerge from the data rather than being imposed on them prior to data collection (de Vos et al, 2005:47). The main objective of the qualitative method is to explore, discover and generate theory. This is done in a natural setting

in an attempt to make sense of it (Johnson & Christensen, 2011:376). It is important for the observer not to draw attention to him/herself during the period of observation.

During qualitative data collection open questions are posed to participants allowing them the freedom to express their perceptions without interference. The researcher must search and explore data, form categories and identify patterns emerging from the data. This is done until a deep understanding is achieved. Qualitative reports are presented as narratives rather than numbers as is the case in quantitative reports (McMillan & Schumacher, 2010: 28). The report includes direct statements made by participants. Two criticisms of qualitative research are that the outcomes may not be generalizable because of the small sample and each experience could be interpreted differently. This leads to the other criticism which questions the validity and reliability of data because of its subjective nature. However, some researchers posit that validity and reliability are not issues in qualitative research because the nature and purpose is to elicit personal experience, beliefs and values. However, to address the issue of reliability and validity, an exploratory design or triangulation could be used in which data are collected from different instruments and are corroborated.

### **3.2.2 Quantitative Research Design**

Quantitative research designs emphasize objectivity in measuring and describing phenomena. McMillan & Schumacher (2010: 21) state that as a result, quantitative designs maximize objectivity by using numbers, statistics, structure, and control. They differ from qualitative design in that quantitative researchers state a hypothesis or question, after the literature review, that describes what they predict will happen in the study (de Vos et al, 2005, xv). In a quantitative design the researcher moves from general to specific information using a deductive approach. Deductive reasoning starts with a pattern or theory to be tested or proved and ends with a theory or principle. Research findings are communicated statistically and are reported objectively without interpretation. The report also includes an indication of the generalizability of the results to future studies (McMillan & Schumacher, 2010: 29).

Quantitative designs could be experiential or non-experiential. In the analysis of quantitative data it is important to operationalize variables in the study. McMillan & Schumacher (2010) describe operational definition as one that assigns meaning to a construct or variable by specifying the activities or operations necessary to measure it. A variable is a symbol to which numerals or values are assigned (de Vos et al, 2005:31). In research, there are two types of variables. A dependent variable is one in which the researcher expects changes to be produced (de Vos et al, 2005:148). An independent variable is the intervention programme - the strategy and procedures the researcher will use produce change.

Quantitative designs are usually generalizable to different populations (McMillan & Schumacher, 2010). They are considered to have high reliability and validity as the data are not open to interpretation. However, the lack of context and personal experience question the reliability or validity of quantitative research since the laboratory is quite different from the real world which is not controlled but instead filled with permutations. For this reason postmodern researchers are applying mixed designs which include both qualitative and quantitative instruments.

### **3.2.3 Mixed Design**

A mixed method design is the use of both quantitative and qualitative methods. It has grown out of a postmodern paradigm which values both subjective and objective knowledge as a way of knowing. Mixed designs are used in various ways: explanatory, exploratory and triangulation. Explanatory designs use quantitative data collection first, and depending on the outcome, qualitative data are gathered secondly. The intention is to elaborate on or to explain the quantitative findings (McMillan and Schumacher, 2010:25). The main thrust of the study is however, quantitative and the qualitative results are secondary. Exploratory designs gather qualitative data first and quantitative data secondly. The purpose of this type of study is to use qualitative data collected from information-rich respondents to identify themes, ideas, perspectives and beliefs that can be used to design a larger scale

quantitative study. Quantitative data could also be used to corroborate findings from the qualitative findings thus increasing reliability and validity of findings.

Triangulation is the third mixed design. In this design, both qualitative and quantitative data are collected simultaneously. It is used to offset the weaknesses of one with the strength of the other (McMillan and Schumacher, 2010:27). Triangulation occurs when the results from each method converge to indicate similar results, thus increasing credibility.

A mixed design was selected for this study as it was considered effective in eliciting deep experiences of participants regarding their perception of lifelong learning as a strategy to improve professional development practices. This emergent design enables greater participation in the research resulting in informants identifying their barriers and finding solutions best suited to their challenges (de Vos et al, 2005). Data were gathered through three instruments: a purpose designed semi-structured interview schedule, focus group discussions and a questionnaire. This mixed design can be categorized as an exploratory design because it gives the researcher the opportunity to gather qualitative data first, through interviews and focus group discussions; followed by the gathering of quantitative data (McMillan & Schumacher 2006:13). Data collected from semi-structured interviews and focus group discussions enabled the researcher to use the right language with emphasis on important aspects for wording items in the questionnaire. Data from the questionnaire were used to corroborate findings from qualitative data thus providing triangulation. The use of both quantitative and qualitative approaches strengthened the study ensuring validity, reliability, and dependability (Mertens, 2010)

### **3.3 Research Methodology**

Research methodology refers to the description of the population, sample, and data collection techniques including specific measuring instruments to be utilized as well as the reliability and validity of the instruments for the particular study (de Vos et al, 2005:19). Also included in this section is a discussion on ethical considerations. The

methodology also encompasses the limitations and/or generalizability of the study to larger samples.

### **3.3.1 Research Population and Sampling**

This study applied purposive sampling in order to gather data from a small group of information-rich participants. Purposive sampling can be described as seeking out individuals, groups, and settings where the specific processes being studied are most likely to occur (Denzin & Lincoln, 2000:370). The reason for selecting this method is to explore respondents' experiences, beliefs and values about the research question. Interpretivist researchers believe that historical and social context are key components of individual's perceptions and beliefs and that through dialogue individuals are able to identify personal barriers and come up with solutions to address challenges (de Vos et al, 2005).

Mertens (2010) suggests that adequate evidence must be provided about participants in a study to inform the reader about their uniqueness. The researcher must identify who and what is to be studied. The sample for this study included all curriculum practitioners within DTVET, and three officers from the HR department. Below are the criteria for selecting participants:

#### Criteria for selecting Curriculum practitioners

- Practitioners with prior experience in curriculum development
- Practitioners with a qualification in education, training and development
- Practitioners with other qualifications

This group of Informants was made up of 24 curriculum practitioners in various technical areas within the PDD in DTVET. All curriculum practitioners participated in the study. They represented 100% of the total population.

#### Criteria for selecting Team leaders

- Team leaders with prior experience in leadership
- Team leaders with a qualification in supervisory or management skills

- Team leaders with other qualifications

Within PDD technical areas are sectioned into teams. Teams are led by four team leaders who are themselves curriculum practitioners. All team leaders were interviewed. This represented 100% of the total population.

Criteria for selecting HR officers

- Officers with prior experience in HR development and planning
- Officers with a qualification in HR development and planning
- Officers with other qualifications

Interviews were conducted with three HR officers. They were seen as key informants since they are directly involved in determining training strategies for DTNET practitioners. The HR Development and Management (HRDM) unit is made up of 5 officers. The sample size of this population was therefore 60 %.

These sub groups and sample size are not intended to be representative of all TVET curriculum practitioners in Botswana. Instead, respondents are selected because they have the information that the researcher needed for the study (Gall, Gall & Borg, 2005).

### **3.3.2 Data Collection**

The research question informed the selection of collection instruments. The collection of data was through qualitative instruments, semi-structured interviews and focus group discussions, followed by gathering quantitative data in the form of a questionnaire (McMillan & Schumacher, 2006:13). Data from semi-structured interviews and focus group discussions enabled the researcher to develop a purposeful questionnaire to corroborate qualitative data.

### 3.3.3 Interviews

The interview can be described as a conversation between two people with the aim of obtaining research guided by one's research objectives; for Christensen and Johnson (2011:56) the interview could be face-to-face or telephonic. Knowledge is situated and contextual (Mason 2002:63) and so interviews interrogate situatedness and context - appropriate for qualitative research. In this regard, the position of this researcher is that respondents' knowledge, views, understanding, and experiences are meaningful to the research questions. The interview was selected as one of the dominant methods for collecting data, the other being focus group discussions in this study. The direct interaction during interviews allowed the researcher a greater opportunity to obtain data, through listening and probing and to have immediate and greater depth and clarity on data arising from discussions. The most common types of interviews used during qualitative studies range from the structured to the relatively unstructured format. According to Christensen and Johnson (2011:56) a questionnaire is a self-report, data-collection instrument. The data may include measurements of demographics, opinions, and perceptions of participants. Questionnaires often include close-ended items where participants must select from a range of responses as well as open-ended items where the participants must provide their own answers. In this research the semi-structured interview format was selected. Mason (2002:63) identifies the interview structure as allowing the interviewer to construct or reconstruct meaningful data through dialogue.

Questions in the interview schedule were developed around each of the main research questions and its sub themes. Questions were open-ended and were used along with probes to provide the guarantee of involvement and meaningful data. The interview schedule comprised of various types of questions to address individual's experience, opinion/value and knowledge on the lifelong learning skills required for their CPD. Three types of probes and prompts were used to gain a deeper understanding of the interviewees' perspectives and to add richness to the data. These included detail-oriented probes to follow up questions, elaboration probes

designed to encourage the interviewee to say more and clarification probes with the purpose of expounding on responses.

Interviews were conducted at the convenience of interviewees. They were from 45-60 minutes. Initial contact was made through written communication, (letter of invitation to participate in the study) and then through email and face to face contact. The preparation of the draft interview schedule also involved the preparation of an information statement. This statement introduced the researcher, outlined the purpose of the interviews and focus groups, and indicated how the results of the study were to be used; a statement of confidentiality and request for permission to record the interview was also included in the information statement. To capture informants' responses accurately and sufficiently during interviews and focus groups, responses were tape recorded, with permission of respondents, and transcribed verbatim. Those were entered onto Micro soft word documents. Table 4 illustrates the interview guide for the study.

TABLE 5 INTERVIEW GUIDE

Interview participants	Technique	Purpose of the interview	Number of interviews	Focus area of the interview
Team leaders in curriculum development	Semi-structured interview	To elicit respondents' perception of LLL for professional development of curriculum practitioners	4	The LLL skills required for CPD
HR officers	Semi-structured interview	To elicit respondents' perception of the importance of LLL for professional development of curriculum practitioners	3	Strategies that HR could implement to improve CPD

### **3.3.4 Focus Group**

Focus group discussions are variations of the interview (McMillan & Schumacher 2006:363). Focus groups are used to obtain a better understanding of a problem, concern or idea. By creating a social environment group members are stimulated by one another's perceptions and ideas. This enables the researcher to increase the quality and richness of data through a more effective strategy than one-on-one interviews. In this study, focus groups consisted of 8 members from the Department of curriculum development and delivery. Typically focus groups comprised of 8 to 12 persons who were relatively homogenous (McMillan & Schumacher (2010:363). Having common traits, participants are encouraged to think more deeply about the topics and are in a position to question each other to arrive at a group decision.

The group discussion was guided by three to four main ideas related to the research questions. The discussions were recorded and transcribed verbatim. Discussions lasted from 60 to 90 minutes.

### **3.3.5 Questionnaires**

In the context of this research the questionnaire was used as a secondary source of data collection to corroborate data collected from interviews and focus group. The use of both quantitative and qualitative approaches strengthens the study ensuring validity, reliability, and dependability. The items featured in the questionnaire were selected from the literature review. They were based on the most commonly occurring key skills which international and national bodies have identified as the modern day competencies people require to work effectively in a global, technical, knowledge economy. The questionnaire comprised of two sections. The first section provided information on informants' professional history. This information was important as it provided a basis for comparison of practitioners with varying degrees of experience and qualification and their perception of CPD. The second section of the questionnaire was a four point Likert scale. A Likert scale is one in which the

stem includes a direction and the respondent indicates agreement or disagreement with the statement (McMillan & Schumacher 2006:199). Informants had to select one of the following: *Strongly agree*; *Agree*; *Uncertain* or *Disagree*. Researchers generally agree that it is important to include a neutral choice to avoid forcing the respondent to select an incorrect choice or not to respond at all: hence the reason for including, “Uncertain” as a choice (McMillan & Schumacher: 2010:198). Questionnaires were administered two weeks after the focus group discussions and interviews. The reason for this was that qualitative data were used to form items for the questionnaire. In this way data could be verified, increasing validity.

All instruments were piloted with eight colleagues who are similar to the selected participants. This allowed the researcher to pre-test the questions with the intention of clarifying meaning and to ascertain a time frame allocated to interviews and questionnaires. Pre-testing also increases reliability by refining the instruments so that they gather information in a consistent manner (Creswell, 2008).

Within the context of this study variables were operationalized firstly by numbering each questionnaire and by allocating a value to responses emanating from the four point Likert scale; the following values indicate the level of response: 1 - *very important*; 2 - *important*; 3 - *not important*; 4 - *undecided*.

### **3.3.6 Desk Research**

To investigate the issue of staff development policy, the researcher carried out desk research to determine whether there were any existing policies within DTNET's system. A policy on staff development was identified from one of DTNET's institutions.

## **3.4 Data Management**

Data management refers to strategies that researchers use to secure data in order to preserve confidentiality, validity and reliability. The data were collected from the in-

depth interviews and focus group discussions after gaining the consent of participants to tape record sessions. All data were stored in a lockable cabinet for which only the researcher had a key. Once data had been entered electronically, only the researcher had the password to access data. To preserve quantitative data, only the researcher had access to questionnaires. Questionnaires were numbered so that the researcher could always go back to a particular questionnaire to confirm responses. Numbering questionnaires also preserved anonymity by not naming the participant. Once questionnaires were numbered responses were entered into the MS Excel programme. Only the researcher had access to computer files. Once the dissertation has been approved all data will be destroyed one year after in accordance with UNISA policy.

### **3.5 Data Analysis**

Data analysis can be defined (in quantitative design) as the categorising, ordering, manipulating and summarizing of data to obtain answers to research questions ( de Vos et al, 2010:218). In terms of qualitative analysis, categorising data represents the heart of qualitative analysis: data are not manipulated but presented directly from participants' responses (Marshall & Rossman, 1999:54). Data were organized into computer files. Before commencing data analysis the researcher made an inventory of what had been collected. This assisted in determining whether there were gaps in the data and allowed the researcher to gather more information to fill gaps (Creswell, 1998: 143).

In this study an inductive approach was used to analyse qualitative data. With this method it is important to analyse the statement of facts inductively derived from interviews and focus group discussions. Through inductive analysis, theory is developed from the ground up: data are used to come up with a theory. It is opposite to quantitative analysis, in which theory is imposed and research is done to confirm the hypothesis (top-down approach).

In qualitative data analysis the researcher becomes engaged in a recursive process involving repeated application of a category to fit codes and data segments

(McMillan & Schumacher, 2006: 377). The specific approach used is the constant comparative approach, a process of physically and manually sifting through data to form categories. The researcher becomes familiar with data. Qualitative data was organized using categories and codes. Categories represent the first level of induction by the researcher (McMillan & Schumacher, 2006:377). Data from interviews and focus groups were transcribed and read through to identify patterns and relationships. This process of constant comparison enables the researcher to continually search for both supporting and contrary evidence about the meaning of the category. The researcher used manual techniques - colour coding and electronic applications (Microsoft word) for entering, storing and retrieving data as well as for producing the report.

Questionnaires were numbered and coded and responses calculated to determine the most frequently occurring responses. These data were then converted into percentages using graphs and simple descriptive statistics to convey central measures of tendency. Simple descriptive designs provide valuable information, especially when first investigating an area (McMillan & Schumacher, 2006: 217). Three indices were referred to as measures of central tendency. These were: mean - the average score; median - the point that divides a rank ordered distribution into two halves; and the mode - the score that occurs most frequently in a distribution. Quantitative data highlighted similarities and dissimilarities among data, degrees of divergence or association between variables.

Since this study is skewed towards, a qualitative, exploratory design as its aim is to explore perceptions held by participants; inferential statistics did not form part of the data analysis or presentation: the reason being that inferential statistics mostly deal with probability of error involved in sampling and measurement (McMillan & Schumacher, 2006). The main aim of this research, however, is to explore the perceptions of practitioners of LLL skills as a strategy for improving their CPD. The data will describe to what extent practitioners believe that LLL skills could improve their CPD.

### **3.6 Validity and Reliability**

To obtain valid and reliable data from research the researcher must identify how data will be measured. De Vos et al (2005:160) refer to validity and reliability as the most important concepts in the context of measurement. In the context of research, validity refers to the degree to which scientific explanations of phenomena match reality (McMillan & Schumacher, 2006:104). According to Babbie (2004:143) validity refers to "the extent to which an empirical measure accurately measures the concept it is intended to measure". Reliability of a measurement refers to the stability or consistency of the measurement. It means that the measuring instrument must yield the same consistent numerical results each time it is applied. Neuman and Kreuger (2003:179-180) suggest the following procedures to increase reliability: clearly conceptualising all constructs, increasing level of measurement, using multiple indicators of a variable, using pre-test, pilot studies before applying the final version of the instrument.

Qualitative researchers use the term validity or trustworthiness when referring to qualitative research that is plausible, credible, trustworthy, and, therefore, defensible (Johnson & Christensen, 2011:264). Strategies that were used to maximize validity in this research included: fieldwork, triangulation by cross checking information by employing multiple procedures or sources to ensure corroboration, making use of multiple research methods to study a phenomenon, participant feedback of the researcher's interpretations and conclusions with the actual participants, and peer review of the researcher's interpretations.

Where information was unclear or lacking in detail the researcher recalled the interviewee for a second interview with the purpose of clarifying information contributing to the trustworthiness of the study. The researcher made use of participant review for validity and the reliability of the data. The participants were requested to confirm the accuracy of the interpretation of transcribed data and or to modify information from the interview data according to the information they supplied.

Qualitative research is more likely to be personally intrusive than quantitative research, and for that reason ethical policies regarding informed consent, deception, privacy, anonymity, and confidentiality are important (McMillan & Schumacher, 2006:333). The researcher had approval firstly from UNISA Ethics Committee to conduct the study, from the Director of DTVET and the Principal Education Officer of Programme Development and Delivery. All participants were informed of the research and consent forms were prepared for them to sign to take part in the study.

To ensure validity and reliability on the quantitative data the questionnaire was piloted with the intent of confirming the clarity and wording and representation of the construct (McMillan & Schumacher, 2010:204). According to Lincoln and Guba (1985:292) reliability is sought not for its own sake, but as a pre-condition for validity. The research design used in this study was planned to control and minimize threats to the internal validity and to ensure that credible findings and interpretations would be produced.

It is necessary in any interpretive study for the researcher to situate him/herself in relation to the context of the research, and to declare possible biases that might influence the interpretation of data. In this regard, my position is that I am a curriculum developer with PDD, DTVET. To minimize biases the researcher made memos to self, transcribed data from recordings to MS word, and coded questionnaires so that there was no link with the respondent. The research was carried out after a period of 15 years working experience within the department. I therefore have an understanding of the culture associated with CPD in the department. My position as a curriculum officer, team leader, and at times Head of PDD, provided opportunities to build trust with sub groups in the research population. I would therefore have an understanding of misinformation introduced in particular in the sub group, curriculum practitioners. My work in the department also provided me with knowledge of the HR strategy for training. This knowledge enabled me to have confidence in interviewing the respondents from HRDM.

### **3.7 Statement of Research Ethics**

Research ethics refer to ensuring that participants are protected. They must be assured of confidentiality. Attention to ethical issues included: approval from UNISA Ethics Committee to carry out the research; permission from the Director DTVET and the Principal Technical Education Officer I (PTEO) in charge of the PDD to conduct the study on site; signed consent from participants and agreement on confidentiality and anonymity (Bogdan & Biklen, 2007: 46). Participants were informed of their right to voluntary participation as well as their right to discontinue with the research. They were informed about the purpose and methodology of the research, as well as the dissemination of the report to relevant stakeholders. Care has been taken to minimize researcher misinterpretation through, for example, memos to self and member checking, particularly because the researcher is a member of the curriculum development team at DTVET.

Anonymity was assured through the coding of questionnaires and the recording of interviews and focus group discussions. These methods broke the connections between data and respondents' identity. Steps to ensure confidentiality included documents being kept in a lockable cabinet for which only the researcher had a key. Data entered into the computer was protected by a password known only to the researcher. No data published in the dissertation contained information through which participants can be identified.

This study is limited to identifying LLL strategies to be included in a model for professional development of a specific group (curriculum practitioners with PDD-DTVET). Therefore, the findings may not be generalizable to other groups. More research would need to be carried out in order to gain a better understanding of the inhibitors to knowledge acquisition of practitioners within DTVET. Similarly, more research will be required to measure the impact of the model and to identify needed adjustments. These activities are beyond the scope of this study.

### **3.8 Summary**

Chapter 3 has focused on a description with reference to sources of how the research was planned and executed. The cosmological, epistemological, and ontological positions of the researcher and how they informed the selection of the research design and methodology were described. The research design, data collection methods, data analysis, as well as the ethical considerations employed in the study were also discussed. The researcher considered a mixed design to be best suited for this study in order to determine the LLL skills for professional development of curriculum practitioners.

## **Chapter 4 Data Presentation, Analysis and Discussion**

### **4 INTRODUCTION**

This chapter focuses on the presentation, analysis, and discussion of data collected. The study was a mixed method design which included focus group discussions, semi-structured interviews, and a questionnaire. The questionnaire was administered to corroborate findings from the interviews and focus group discussions. These three methods of data collection were used for the sake of trustworthiness. Items selected to form the interview schedules and focus group discussions were derived from the main research question and sub questions presented in Chapter One, section 1.3. Each research instrument was piloted with eight colleagues in the department for the sake of validity. Changes were made to address the issues of questions being too closed ended, repetitive, and to enable the researcher to administer the same questions to all three groups of participants. The researcher used probes to elicit specific information from different groups of participants. Categories for organizing data were derived from the interview schedules which were designed within the theoretical frameworks discussed in Chapter One, section 1.7. These frameworks referred to adult learning principles - adults learn differently from children, situational and experiential learning strategies should be accounted for. Categories were further broken into subcategories for discussion.

The interview schedules included items to elicit information about perceptions of the role of the organization and that of programme developers in promoting lifelong learning (LLL) for continuous professional development (CPD). The reason for the inclusion of questions relating to roles and responsibilities was to determine whether organizational culture acted as a significant motivator or barrier to LLL. Questions about the effective support systems currently available in the department were included in both the interviews and focus group discussions. The researcher was cognizant that when operating from a postmodern paradigm, it was important to acquire a holistic perspective of the participants in relation to their work environment

as opposed to studying participants in isolation. This principle of social context in relation to professional development has been supported by Mullin's (2005:144).

Interviews and focus group discussions were tape recorded with the permission of the participants and transcribed by the researcher. These sessions were conducted over a period of three weeks after having received approval from the relevant authorities to conduct the research. Semi-structured interviews were conducted in the offices of the interviewees. These lasted from 45 minutes to one hour per interview. Voice recordings were recorded on an Olympus digital voice recorder and thereafter transcribed verbatim onto paper. The analysis was done by reading the data several times and sorting the information to identify recurring themes which were categorized under each research question. The key words that were constantly repeated by participants indicated that there was a pattern of similar experiences. The keywords were highlighted and formed a basis for converging data.

Programme developers participating in the study were reminded of their agreement to answer a questionnaire after the interviews and focus group discussions. The responses regarding LLL skills which emerged from interviews and focus groups formed the items for the questionnaire. These LLL skills were juxtaposed with programme developers' main job roles. This was done in order to validate previously collected data and to place the identified LLL skills within the context of actual tasks carried out by practitioners. The questionnaire was administered two weeks after the interviews and focus group discussions. Participants were required to select a numerical value attached to each of the LLL Skills, Numerical values were from 1-4: four indicating-strongly agree, 3-agree, 2-uncertain and 1-disagree.

Research findings are presented in three sections, highlighting major themes that ran throughout the discussions.

Section one addresses sub questions one, two and three of the main research question:

What is your perception of the importance of CPD?

What is your perception of the role of DTVET in CPD?

What is the perception of the role of curriculum developers in their CPD?

Section two addresses sub-questions four and five of the main research question:

- What are the barriers experienced by practitioners to “on the job” learning and training?
- What are the motivators experienced by practitioners to “on the job” learning and training?

Section three addresses sub-question six of the main research question:

- What are the LLL skills required to improve CPD of curriculum practitioners in DTVET?

During the interviews, probing questions were used to elicit further information and to clarify statements. Participants’ views are organized into the following categories: importance of CPD; roles and responsibilities of DTVET and practitioners; barriers to CPD; motivators of CPD; and LLL skills required for CPD.

Throughout the discussion distinctions are made amongst the different groups of participants. Team leaders are referred to as TLs; programme developers who were unable to participate in focus group discussions but who made themselves available for interviews are referred to as PDs. Programme developers who participated in focus group discussions are referred to as FGPs. The third group, human resource officers are referred to as HRPs.

#### **4.1 Target Population**

The target population for the study was 27 participants: 24 PDs and three HRPs. However, two PDs were unavailable at the time the research was being conducted, therefore the response rate for the qualitative study was 92% (25/27). Two

participants were also unavailable to answer the questionnaire. The total number of responses for the questionnaire was 20/24. The response rate for the questionnaire was 83%. A total of twenty-four people took part in the study. Table 1 gives an overview of the response rates for data collection.

TABLE 6 RESPONSE RATES

Items	Interviews and Focus groups	Questionnaires
Targeted no. of participants	27	24
Actual number of participants	25	20
Response rates	92%	83%

## 4.2 CPD for Practitioners

### *Importance of CPD*

The data for section one are presented as a compilation of research question 1 with its associated questions which formed part of the interview schedules and focus group discussions.

Q1. From your perspective how important is LLL for continuous professional development?

Associated questions

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What is your perception of DTVET's role in the CPD for practitioners?

To what extent has DTVET been involved in CPD for practitioners?

What is your perception of your role with regard CPD?

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Responses from the above questions assisted the researcher in gaining an understanding of the culture within the organization as well as to determine the extent to which a learning culture existed in the department. Responses also enabled the researcher to identify gaps in the organisation's espoused principles of LLL and to determine the strategy that could be implemented to address these gaps.

### 4.2.1 Change Factor

All participants from the three groups responded that CPD was very important for maintaining competence in an increasingly *complex TVET environment*. One TL alluded to the importance of CPD in the following statement:

*“Modern day changes such as emerging technology, globalization, pedagogical models, and integrated approaches to management s are the main reasons which force us to learn continually.”*

The same participant gave an example of e-technology which practitioners must have knowledge of. Other participants referred to keeping abreast with best practices in their technical areas of expertise. This was particularly important for programme developers in the area of information communication and technology (ICT) and in hospitality and tourism. This is what one TL said about technology:

*“Programme developers in the areas of hospitality and tourism must have competence in e- commerce and Microsoft version 9 because this is where the industry is heading.”*

Another TL highlighted the fact that practitioners needed to acquire skills in research and information management. The TL said:

*“There is so much information which practitioners could access on the internet and from DTVET shared folder but they must first be seekers of knowledge, acquire research skills and be able to manage information.”*

Further comments on the topic of change included the need for practitioners to acquire learning to learn skills. These skills have been alluded to in the literature as an important competence of a knowledge economy. Cornford (2002:357) outlined

the need for learning-to-learn-skills and the need for cognitive and metacognitive learning strategies that would enable participation in the new knowledge economies. This is what one TL said about the need for practitioners to continually learn:

*“We need to develop learning- to- learn skills because of the reality that TVET is currently making many changes to its systems, structures and curricula causing us to keep on learning.”*

HRPs discussed the importance of CPD in relation to learning every day, to come up with new and innovative ideas to address the changing work environment. One HRP commented that:

*“Learning is not a onetime thing. One has to keep learning to keep up with technological change.”*

Participants voiced their concern about the need for the organization to change its management style from what was described as a "top-down approach to a more collaborative approach in order to foster a spirit of team work". One TL stated that:

*“No one method of leadership would suffice because of the complexity and diversity in the work environment: hence the reason for more open discussions and transparency in policies and processes aimed at achieving organizational goals.”*

These comments highlighted participants' awareness of the changes that were occurring in the workplace at operational and management levels which required continual learning for management as well as practitioners in the department. Their views mirrored similar issues which were discussed in Chapter Two. For example the Organisation for Economic and Cultural Development (OECD) Skills Outlook (2013: 29) reported that modern day workplace challenges emanated from globalisation driven by technology. One of the main challenges mentioned in the report was the need to manage information in a technology rich environment. Delors et al report (1996:21) advised that not only must LLL enable us to adapt to the

changes in the nature of work but it must also engage individuals in a continuous process of forming whole beings, that is, developing knowledge, aptitude, as well as the critical faculty and ability to act. Soni (2012:1) also addressed the accelerated changes in the nature of work and education. One of the changes alluded to was the increased prevalence of “high technology” jobs

#### **4.2.2 Lack of pedagogical Competence**

In addition to the changing work environment PDs discussed the importance of CPD specifically in relation to pedagogical competences. One FGP made the following comment:

*“We are specialists in our technical areas but do not have training in curriculum development, more specifically OBE. This is a challenge that DTVET should address.”*

CPD was seen as a way of addressing the issue of practitioners being, “thrown into the deep end”, as it was described by one participant, without training in curriculum development. Another PDP suggested that training should not be a “one-off” workshop but a continual process. To support this need for CPD a FGP stated that:

*“Workshops were too few and in between ... they needed to be more frequent so that we could reflect, and give feedback on application of principles in order for learning gaps to be addressed.”*

This viewpoint is similar to the argument put forward in the literature by UNESCO-UNEVOC bulletin 2004, which advocated for “workforce development and lifelong learning for sustainable development.”

Participants highlighted the need for retraining to produce OBE programmes as opposed to traditional Apprenticeship programmes. One TL mentioned that:

*“We experience difficulty in adapting to this new OBE model, which requires us to apply complex solutions to programmes that are demand driven.”*

Hoadley and Jansen (2009:97) referred to the difficulty in the South African context of implementing curriculum as intended. Their research indicated that while educators were aware of the principles of the new 2005 Outcomes Based curriculum, they had difficulty in implementing them. Hoadley and Jansen (2009) identified several reasons for this problem such as historical, cultural and socioeconomic backgrounds. In reporting on the difficulty practitioners experienced with working within OBE, one FGP reported that:

*“We need to be trained in outcome based education. It is difficult for me to differentiate between competency and outcomes based education.”*

This challenge of adapting to new education models was also alluded to in the literature. Bruner (1986) and Doll (1993) advocated for replacing the logic and analytical method of teaching and learning with a metaphoric, narrative method which was interpretive as opposed to explanatory. However, Bruner highlighted that attitude was the most important of all curricula criteria. This view therefore underscored the need for practitioners to reflect on the assumptions and beliefs that inform their educational philosophy.

This challenge could be viewed within the context of an education philosophy presented in the literature which advocated for a philosophy of progressivism and constructivism. This new paradigm valued learners' experience, and education with training that matched market needs. For example, Ornstein and Hunkins (2004:212) described learning in the post-modern world as “assuming openness to process, an eye for the unexpected and readiness to interact with systems as they evolve”. This approach to education differed from the traditional model in that the new model focused on the process of learning as opposed to a focus on content in the old model. A comparison of the old and new models thus provided the researcher with a framework for placing the concerns of participants in context.

### 4.2.3 Keeping abreast with Industry and Management Skills

Another perspective participants alluded to about the importance of CPD was keeping abreast with industry needs. All three groups of participants agreed that industry attachment was important as part of the strategy for CPD. One PD made reference to a system in Germany in which it was reported that:

*“In Germany, practitioners were required to spend a stipulated time on industry attachment annually. This practice should be adopted by the department in order to increase technical relevance and competence of practitioners.”*

Participants also highlighted the need to acquire management skills. A FGP made reference to management tasks encompassed within their jobs, examples of these included, “managing teams and curriculum development groups, and problem solving”. A PD lamented that:

*“We have not been trained in management skills which are necessary for leading working groups involved in the curriculum development process.”*

These comments on the need for management skills were alluded to in the literature on LLL skills which indicated that organizational skills, leadership, critical thinking and problem solving were key attributes for managing in a technology driven environment (SAQA: 1995; CAD: 2008).

In summary all participants recognized the value of CPD as an approach to acquiring the necessary competencies to work effectively. The impact of emerging technology, changing pedagogical and management skills, and keeping abreast of industry demands were cited as reasons that practitioners should continue learning. These reasons concur with those presented in the literature review. For example OECD Skills Outlook (2013: 29) reported that modern day workplace challenges emanated from globalisation driven by technology. Soni (2012:1) presented the concept of

investigating new frameworks to learning with the purpose of addressing the accelerating changes in the nature of work and education. These changes included increased prevalence of “high technology” jobs requiring support for learning-on-demand because of the impossibility of covering all concepts through the traditional course method; and the inevitability of change in the professional life cycle, which required LLL.

### **4.3 Roles and Responsibilities of DTVET and Practitioners**

The aim of the questions on roles and responsibilities of DTVET and practitioners was to determine the extent to which a learning culture existed within the department. The discussion is presented in three parts: participants’ perceived role of DTVET in contrast to the actual role of DTVET; perceived roles of TLs and HRPs, and the perceptions of the role programme developers thought they should play in their CPD. To arrive at answers to these items, participants were asked the following questions:

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What is your perception of DTVET’s role in the CPD for practitioners?

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To what extent has DTVET been involved in CPD for practitioners?

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What is your perception of your role with regard CPD?

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#### **4.3.1 Perceived Role of DTVET:**

Participants made a clear distinction between their perception of DTVET’s role and what was actually happening on the ground. The issues referred to by participants centred on leadership with other issues of resources, and policy direction.

Most participants indicated that DTVET should take the lead in driving a culture of learning within the organization. This viewpoint was shared by all participants of the focus group discussions. However, programme developers and team leaders who were interviewed had a slightly different point of view. These participants

unanimously reported that CPD should be a joint activity between practitioners and DTVET. A PD further explained that this joint activity implied that:

*"Self-development or personal responsibility should be that of the individual with support to practitioners from DTVET."*

The PD further stated that the support could be in the form of DTVET "bearing training costs, providing policy direction, and providing ongoing training that is directly matched to practitioners' job descriptions." These views bore similarities to those in the literature. Mullins (2005) emphasized the importance of leadership: communicating organizational goals, and providing the training for employees to acquire the competencies required to achieve these goals.

Only two TLs felt that there was moderate involvement from DTVET. The examples given of DTVET's involvement were cited by one TL who said the following:

*"DTVET provides short and long term training, guides and policy documents for curriculum development."*

In terms of creating a learning culture and a strategy for CPD, two TLs mentioned that it was important for management to "*encourage practitioners to participate in LLL*", for example, by:

*"Acknowledging individuals' and teams' outstanding performance, acquisition of new skills, success in attaining qualifications, completion of short courses and initiative in developing systems to support learning and development in the department."*

Participants made reference to the fact that the department did not have a resource centre or library. It was felt that it was a facility that DTVET should provide. One FGP summed up the role of DVET with regard to this issue in the following statement:

*“DTVET should provide a research department through which we could have access to online journals, and updated lists of publications, and to demonstrate their commitment to learning and development.”*

This need for a research department is supported by data from the review which highlighted research as one of the main activities required for a knowledge society (SAQA, 2005; CAD, 2008).

Three FGPs referred to the lack of leadership and direction with regard to policies and processes for learning and training in the organization. This view had been alluded to by UNESCO (1997, 2012) who called for national TVET strategies and policies to be reflected in national agendas. Mullins (2005) reported on the important role management played in guiding and supporting employees to enable them to know and be able to attend to significant aspects of their jobs and development. According to Mullins, in the absence of this guidance, performance was negatively impacted. Participants were of the opinion that policy documents which clearly outlined a staff development strategy would motivate practitioners to continue learning and growing. One FGP commented that:

*“The HR department should lead the way in terms of developing policies and procedures that clearly outline criteria for CPD, and by defining the key competencies practitioners must acquire in order to effectively do their jobs.”*

One HRP believed that DTVET was actively supporting CPD. This view was founded in the belief that:

*“CPD should be a joint activity, and that practitioners should not depend solely on their employers for their CPD.”*

From this perspective, one HRP said that the role of HR was:

*“To compile training plans based on practitioners’ requests, recommend individuals for training, and carry out the administrative work involved in sending practitioners for further training.”*

This respondent was of the view that DTVET was actively involved in CPD through what was identified as:

*“Financial support and by allowing individuals time off to study for exams.”*

HRPs agreed that there were no strategies for on-the-job learning, neither were there any policies on CPD. Both TLs and PDs felt that DTVET should be intentional about developing a learning culture. For example one TL said this could be done by:

*“Improving communication about: the principles, values and direction of the department; providing a well thought out strategy to increase on-the-job learning and by carrying out regular evaluation exercises to identify skills gaps for both new and longer serving practitioners.”*

A further comment about DTVET’s role was the need for DTVET *“to establish links with industry to enable practitioners to be placed on work attachment”*.

This point is similar to one reported on by UNESCO-UNEVOC online conference (2012:7) which highlighted the benefits of educators collaborating with industry in relation to maintaining professional standards. The report stated that for:

*“Curriculum development to meet the quality standards set by accreditation/certifying bodies close collaborations between teachers and industries are essential...”*

All participants commented that DTVET should encourage practitioners to be *self-directed learners* that they should, according to one PD *“motivate practitioners”*. One TL alluded to the absence of *“evaluation of training and reflection on practice which*

*sidelined opportunities for transformation and behaviour change.*” These comments concur with the review in which Schon (1983) advocated for reflection and evaluation of learning in order to build new understandings to inform our actions.

#### **4.3.2 Actual Involvement of DTVET**

All participants except for one HRP and one TL voiced their dissatisfaction with DTVET’s level of involvement in CPD. Views regarding this item included comments such as:

*“DTVET is not very involved in CPD.”*

[DTVET was said to] *“pay lip service to professional development.”*

[DTVET has] *“a closed-door policy, which acts as a barrier to communication, and to establishing trust.”*

This viewpoint is similar to that of Mullins (2005) who referred to the importance of the psychological contract as an example of trust between employers and employees.

In terms of policy direction, participants agreed that there were curriculum guidelines to assist practitioners in executing their duties but one PD complained that:

*“These were, inadequate, they were too bulky, did not provide hands on training, and that they needed to be reviewed”.*

According to some FGPs the delay by DTVET to review its guidelines and policies on curriculum matters was a major drawback in motivating practitioners to participate in CPD. A FGP described training provided by DTVET as “far and in between”. Participants agreed that they needed training not only in curriculum development but also in areas that supported the development process. Examples of these areas were cited as team building, leadership and ICT. One FGP said that:

*“DTVET is not fully aware of our responsibilities as programme developers and therefore often responds negatively to requests made for training, particularly if it was not specific to curriculum development.”*

Participants also complained about the lack of support from supervisors, examples given included the lack of assistance for practitioners who are struggling with development of assessment instruments.

PDs referred to the lack of transparency and best practice with in the dissemination of their job descriptions. Most participants indicated that they had never seen their job descriptions and did not know where to access them. They described what they knew and what they did as based on what one PD described as “briefings from team leaders and supervisors or from the job advertisements that they had responded to in the past.”

In response to the question about TLs’ perception of their roles, the following were their responses: “information sharing; facilitating induction for new programme developers; escalating teams’ issues to senior management, guiding and mentoring programme developers”. One TL stated that the ability to provide guidance was mostly because of “many years of experience.” One TL reported that:

*“When the teams were “alive” they helped in creating a sense of belonging and ownership for both TLs and members.”*

One TL said that:

*“Teams acted as channels of communication, and for teaching and learning directly related to the job.”*

However, TLs reported that the teams were dead. None of the participants gave reasons for the teams not being as active as they used to be. The comment on TLs’ experience as a way of mentoring is similar to the notion of the “ole timer” referred to in the discussion of communities of practice presented in Chapter Two, section 2.4.

Reference to the importance of working as a team could be seen through the lens of the concept of situated learning. Lave and Wenger (1991:33) cited in Tennant (2006) argued that "communities of practice" embodied not only technical expertise but also beliefs, behaviours and language which form essential parts of professional competence.

### **4.3.3 Roles and Responsibilities of Programme Developers**

In response to the question about PDs' perceptions of their roles, answers have been categorized under two views: those based on self-directed learning as presented in Chapter Two, section 2.3 and on the challenges adult learners faced as presented in Chapter Two, section 2.3.2. Knowles' (1990) principles of andragogy contained three premises which point to the self-directed nature of adult learners. These were adults' readiness to learn, orientation to learning and motivation to learn.

Six out of the 22 PDs interviewed held the view that CPD was the responsibility of the individual and that the organization should provide support to the individual. One PD stated that:

*"As long as people do not take responsibility for their development there will be a never ending spiral without a quantifiable outcome".*

Another PD replied to the question of roles and responsibilities by saying that:

*"CPD comprises both formal and informal learning as ways of increasing competence; however, individuals need to be self-directed so that they could find solutions to everyday problems through reading, blogging, and on-line subscriptions."*

Another statement made by a PD was that:

*“It was important for PDs to develop reading and comprehension skills so that they are able to sift important concepts from large documents which are readily available.”*

Two PDs made reference to the impact culture had on one’s worldview of personal responsibility. Reference was made to an individualistic as opposed to a community-based society. One PD said that:

*“The concept of personal responsibility was intrinsic to those PDs who came from a culture based on individualism, such as the German culture. “*

In contrast, the PD pointed to the fact that,

*“Botswana was based on a community-based culture which did not encourage individualism and its corollary, personal responsibility.”*

This viewpoint bore similarity to the philosophy of Ubuntu through which African people see themselves as being interconnected parts of sub-sections of an indivisible whole (Brandt, 2008). The concept was also similar to Darkenwald and Merriam’s (1982) research which highlighted dispositional barriers to learning faced by adults. Dispositional barriers were described as fear of the unknown, beliefs, values and perceptions about education and about the self. Furthermore, Bruner (1984) posited that curriculum’s attitude or world view assumptions were critical for transformation in the way curriculum was developed and delivered.

One PD who alluded to this dilemma agreed that as Botswana moved towards becoming a knowledge society that:

*“This belief in a community based system should be adapted to embrace some of the values of personal responsibility.”*

PDs agreed that both the organisation and individual had to take intentional steps to bring about a mind-set change in the department so that practitioners could become more self-directed and become seekers of knowledge. This view bore similarities to those espoused in the literature on LLL skills in which cultural awareness, self-awareness and personal development were highlighted as LLL skills required for working in a modern environment (SAQA, 2005).

Most of the PDs who were interviewed and who participated in focus group discussions did not feel that they were responsible for their CPD except for identifying training they required. The view was that DTVET was responsible for their CPD. To highlight their feelings these were some of the statements that were made:

*“On the job training is a scapegoat for management not taking responsibility for sending us on formal training.”*

Another PD commented that,

*“We should be sent on formal training for curriculum development, short term training is not enough.”*

One FGP stated that:

*“We are accustomed to learning through formal training, or being sent away for education and training, and sitting in a class with a lecturer.”*

This had been their experience of learning. Participants felt that it was the department’s responsibility to pay the cost of training. One PD put it this way:

*“How do they expect us to do the job if we haven’t been trained?”*

The attitudes presented here are contrary to the characteristics of adult learners presented by Knowles (1990). However, they concur with critics of Knowles’ adult

learning theory. Critics have highlighted that Knowles' adult learners belonged to a middleclass, American culture and thus their characteristics were not generalisable to people from different cultures and backgrounds (Tennant, 2006:15). This view was apparent from the data. However, the researcher is of the opinion that given the right conditions practitioners could develop into self-directed learners who have the capacity to optimize learning. Examples of right conditions include reflection in and on practice as advocated by Schon (1983) who suggested that reflection enabled reframing of previous understanding of what a problem might be. Another condition would be discussion on practitioners' attitudes, values and beliefs as postulated by Bruner (1984). Further, on-going training, and open communication about the competencies required of practitioners as posited by Mullins (2005) would be valuable.

#### **4.4 Barriers to CPD**

The discussion on barriers to CPD is presented using two categories: institutional and dispositional as presented by Viljoen (2013.) The item in the questionnaire was asked to address the issue that in spite of adult learners' readiness to learn, adults do have barriers to learning. Barriers to CPD identified by participants centered on the following: institutional- poor communication, lack of strategy, lack of reflection and evaluation, organization structure, and training; and on dispositional-cultural and historical factors.

##### **4.4.1 Institutional Barriers**

The general perception from all participants was that there was poor communication on organizational goals and strategies which involved CPD. Participants felt that decisions made at management level were not communicated down to practitioners. This left practitioners in the dark about significant aspects of their jobs, roles and key competencies. Examples of poor communication were alluded to by one PD as the following:

*“Lack of information on criteria for inclusion in the department’s training plan; no reasons given for the lack of training in essential areas such as curriculum and assessment development; and no shared strategy for on- the- job training.”*

Participants also commented on the lack of evaluation of and reflection on training workshops, performance and generally the values and attitudes that existed among practitioners.

One PD alluded to the fact that there was:

*“Too little training and what was available was insufficient and did not provide the knowledge needed for everyday operations.”*

PDs referred to the process of induction as poor, more specifically, one PD lamented that:

*“It was too short a time, too theoretical, not helpful.”*

Examples given of this closed model of training were induction and BTEP phase training. This training was designed to induct new comers into the department on the principles of OBE, internal and external verification and on standard based assessment. Participants felt that DTVET should evaluate training needs of both new and long standing practitioners to provide continuous, relevant training.

Participants’ comments on the training model used for BTEP, induction and workshops were supported by the discussion on a transformational model of CPD postulated by Kennedy (2005) who stressed that a transmission model of CPD, for example, lecturing and cascading, was less effective than a transformational model, for example experiential learning such as action research, reflection on practice and portfolio building.

FGPs complained that they had a wealth of experience and were capable but that their experience was not valued. One participant said that:

*“We are not given the opportunity to demonstrate our knowledge and skills.”*

These comments indicated a high level of frustration with the attitude, values and beliefs of management, especially about adult learning principles which underscored the importance of valuing adult learners’ experience and their self-concept (Knowles, 1990).

Participants also stated that the flat departmental structure left no room for progression. This was said to be a demotivating factor which discouraged individuals from pursuing their development. PDs felt that there was work overload, with extra duties not related to curriculum development. This was said to impact on the time that could be spent on CPD. These views were supported in the literature in which Knowles (1990) stressed the importance of adults’ readiness to learn when that learning would solve an immediate problem. There being no competition for promotion could be seen as a lack of incentive for CPD. In relation to “work-overload” and its impact on time for CPD, Viljoen (2013:34) referred to Darkenwald and Merriam’s (1992) research. They suggested that insufficient time, because of multifaceted roles, became a barrier for professional development.

Most participants highlighted the absence of a curriculum specialist in the department. This resulted in a lack of sustained guidance on their core business of curriculum development. The need for highly trained specialists was supported in the literature. The BNCQU (2013) under the HRDC identified professional development of TVET teachers as a key factor in ensuring that Botswana’s education reform is effective.

Measures in place that were cited both as barriers and contributors to CPD were BTEP Phase training, induction, and performance based reward system (PBRs). However, participants believed that while the intended purpose of BTEP training was

positive, the actual delivery and content of BTEP did not achieve what it set out to do. The reasons given for the perceived failure are summarized in the table below:

TABLE 7 BTEP SHORTCOMINGS

<i>Too focused on function instead of process</i>
<i>Lack of concrete examples and opportunity to apply theory to practical problems</i>
<i>Inconsistency of quality of trainers</i>
<i>Should not be one off training. It should be continuous</i>
<i>Did not provide opportunity for reflection on attitudes, teaching and learning styles and techniques</i>

PDs also had the same complaints about the content of induction material and the way in which induction was presented. With regard to the PBRs, one HR participant stated that:

*“It was a good system which had the potential to motivate practitioners; however DTVET has never used the opportunity to reward outstanding performance.”*

This neglect was seen as a barrier to motivating practitioners to continue learning and developing. This viewpoint contradicts the principle that adult learners are mostly intrinsically motivated (Knowles, 1990). However, it is supported by organizational theories which underscore the importance of rewarding achievement as a motivator for excellence (Mullins, 2005).

#### **4.4.2 Dispositional Barriers**

Dispositional barriers as discussed in Chapter Two were described mainly as psychological, for example, *fear of the unknown, beliefs, values, and perceptions about education and about the self*, as well as *informational barriers* (Viljoen, 2013). This perspective was confirmed from the data collected from participants. In responding to the question on barriers, participants indicated that one of the main barriers was related to historical and socio cultural issues. All FGPs agreed that in

the Botswana culture, one was not free to question the views of persons in authority, such as facilitators, supervisors and/or mentors. They described this barrier as a cultural norm which says, "Don't ask why". This belief led to practitioners feeling intimidated. This is how one PD described the feeling:

*"I feel intimidated when my request for assistance is not immediately forthcoming or when I needed to ask the same question more than once."*

PDs indicated that they did not perceive themselves as self-directed learners. Many of them attributed their lack of independent learning to the fact that throughout their education they had been taught by a teacher or lecturer (someone in authority). They admitted that they associated learning with sitting in a class with a lecturer. PDs and FGPs indicated that they were not familiar with the concept of LLL or self-directed learning. They referred to their lack of confidence in applying what they had learned to practical problems. Practitioners admitted that these barriers needed to be addressed through a mind-set change. However, they stated that this change was not something they could do on their own. Participants felt that mind-set change was a continuous process that needed to be directed by experts in change management. The following is what FGP said:

*"I feel like I want to jump off, trapped, lost interest in what I loved most, we are treated us as if we are not needed."*

Participants identified frustration, feelings of being unwanted, and information overload as dispositional barriers to CPD. As a result of these feelings PD and TLs alluded to the prevalence of poor work ethics among practitioners.

Their perceptions are supported by literature on organizational behaviour. Mullins (2010: 28) reported that management's task was to integrate the individual and the organization, and to provide a working environment which permitted the satisfaction of the individual needs as well as attainment of organizational goals. Mullins (2010:37) referred to the psychological contract through which management and

employees were able to develop trusting relationships which resulted in increased output through team work and continuous learning and development. Characteristics of the contract included mutual expectations, satisfaction of needs, giving and receiving. Mullins also alluded to a new moral contract through which employees embraced the concept of continuous learning and personal development.

Findings from the research contradict the principle that adult learners are mostly self-directed. However, it does indicate that there is a need for a strategy to equip PDs with LLL skills such as metacognitive skills discussed in Chapter Two, to assist them in examining the values and assumptions which inform their beliefs. Argyris and Schon (1994: 54) emphasised the difficulty adults experienced in learning new theories of action as a result of them protecting old theories in use.

#### **4.4.3 Motivators**

In Chapter Two, section 2.3 Knowles (1990) was mentioned in relation to the idea that adult learners were motivated to learn when their knowledge was valued and used as a foundation to present new knowledge. Another motivating factor alluded to was adults' readiness to learn, if that learning solved an immediate problem. Reference was also made to external motivating factors such as gaining a qualification and improving professional status (Viljoen, 2013). The motivators identified by participants were similar to motivators described as external. In order to elicit answers to the issue of motivating factors participants were asked the following question:

Q4. What is your perception of the motivators to CPD in DTVET?

Only three out of the 22 PDs indicated that self-satisfaction was a motive for CPD. Most of the participants cited motivating factors that were external. These included: money, promotion, incentives, recognition and accreditation. When probed as to what would be motivating factors for CPD, one PD said the following:

*“Curriculum developers should be placed on a higher salary scale. For me, money would be an important motivating factor.”*

Participants also made reference to the need for DTVET to have clear policy guidelines regarding CPD. This is what one TL said:

*“There should be an official statement from the department with regard to the number of hours that were required for CPD.”*

They also stressed that having a policy which clearly outlined CPD procedures would go a long way in awakening their curiosity and motivating them to participate in various CPD activities. One HRP again made reference to PBRS. This is what was said about PBRS as a motivating factor:

*“PBRS is a good management system that could be used to motivate individuals to continue developing and excelling.”*

The participant recommended that management should make use of the menu of rewards to encourage performance and development. One TL expressed the need for the department to revisit the organization structure so that practitioners could be moved to a higher level. Participants also highlighted the need to have an experienced and qualified curriculum specialist who could guide and instruct them on curriculum design and development. All participants agreed that they benefitted from working as a team and having a mentor. These two strategies were indicated as motivators to CPD. They concur with the literature which advocated the concept of “communities of practice” through which a way of knowing is passed from “old timers” to “new comers” (Lave & Wenger, 1991).

Participants stated that management should encourage individuals by recognizing their achievements. All PDs agreed that BTEP training should be an accredited course. They felt that accreditation would add more weight to the training, motivating

practitioners to give it more attention. This view is in line with one espoused in the literature about extrinsic motivating factors (Viljoen, 2013).

Another motivator which was mentioned by one TL was DTVET’s Personal Development Plan (PDP). This plan is a component of the PBRS through which individuals were required to list their annual objectives and output. Each output has a measure. Individuals are reviewed quarterly against these outputs and measures. The suggestion was that CPD could be one of the objectives in the PDP. This would motivate individuals to participate in CPD as the activity could be scored.

Participants were of the opinion that their jobs and responsibilities should be matched with the related key competencies. This approach would improve transparency and create a platform where management and practitioners had a shared understanding. One TL expressed this view in this way:

*“This approach would present a clear picture of where we are now and where we need to go.”*

It was felt that such a systematic approach to CPD would motivate practitioners. To further investigate the issue of staff development policy, the researcher carried out desk research to determine whether there were any existing policies within DTVET’s system. A policy on staff development was identified from one of DTVET’s institutions. The aims stated in the policy concurred with the views expressed by participants. These aims are shown in the table below.

TABLE 8 AIMS OF MAUN STAFF DEVELOPMENT POLICY

a. improve productivity, competitiveness and effectiveness of staff in the work place
b. identify suitable training opportunities for staff at all levels
c. support staff efforts in academic pursuits, for example in research, and publication
d. develop staff for proactive management responsibilities
e. motivate staff at all levels and encourage them to identify with the aspirations of the institution and to participate in development projects within the college.

f. ensure that all staff are given equal opportunity in training devoid of any form of discrimination and favoritism
g. provide a means for staff appraisal and feedback.

In summary participants referred to both intrinsic and extrinsic motivating factors for CPD. However, the majority of responses referred to extrinsic motivating factors.

## 4.5 Lifelong Learning Skills

In the next section the discussion will focus on the LLL skills which participants felt were important to the roles and responsibilities of PDs.

### 4.5.1 LL Skills for Programme Developers

The discussion on LLL skills provided a framework for placing participants' views within the context of their everyday roles and responsibilities. It also provided items for a questionnaire which was administered to validate participants' responses to research question 6:

Q4. What LLL skills do you perceive are needed to improve on-the-job learning?

The LLL skills which participants identified concur with those discussed in Chapter Two, section 2.7. The discussion in Chapter Two made reference to the LLL skills which national, regional and international bodies identified as critical for working in a modern, knowledge society. The emphasis of the LLL skills in the literature according to OECD (2007), SAQA (1995), and CAB was on the following:

- information and communication technology
- self-awareness and personal development
- self -management
- problem-solving
- communication

- critical and creative thinking
- interdependence
- cultural awareness
- research and information literacy

The LLL skills which participants identified and the reasons they cited for the need are presented in the table 9 below:

TABLE 9 LLL SKILLS IDENTIFIED BY PROGRAMME DEVELOPERS

<b>LLL skills identified by participants</b>	<b>Reasons identified for the need for LLL skills</b>
Communication	To improve: reading and understanding; written and non-verbal communication. To improve relationships with internal and external customers.
Personal and Interpersonal	To improve understanding of personal characteristics and how other colleagues think. To improve work relations, to remove barriers to working with others. To foster stronger ties with industry.
Research	To acquire skills in quantitative and qualitative data collection and analysis. To gain an understanding of how to optimize the internet to find information. To carry out skills needs analysis.
Information Communications and Technology	To increase competence in using the computer, this will increase productivity.
Problem Solving	To be able to approach problems systematically without becoming overwhelmed, fearful. To be able to solve a problem and move on.
Change Management	To be able to adapt to all the changes in curriculum development. To handle uncertainty about jobs. To manage stress.
Working as a team	To learn how to maximize the experience and knowledge that exists within teams. To keep motivated. To work together to achieve results.
Management	To learn project management especially time management. To learn to take responsibility and to speak confidently on DTVET's policies and direction.

These LLL skills bore several similarities to those identified by international organisations such as those mentioned in Table 1. They formed the items for the questionnaire which was administered to PDs following the collection of qualitative data. The purpose of the question was to verify that indeed those skills which were indicated were relevant to their jobs. To determine their relevance, LLL skills were juxtaposed with practitioners' job responsibilities and practitioners were asked to rate whether they strongly agreed, agreed, were uncertain or disagreed on a 4 point Likert scale. The questionnaire also provided information about the most and the least important LLL skills which participants regarded as adding value to their CPD.

Section one of the questionnaire elicited demographic information. This information is presented in Table 10.

TABLE 10 YEARS OF EMPLOYMENT IN DTVET

<b>Years of employment with DTVET</b>	<b>No. OF RESPONENTS</b>	<b>%</b>
1 - 5 years	10 of 20	50%
6 - 10 years	6 of 20	30%
11 - 15 years	3 of 20	15%
16 - 20 years	0 of 20	0%
20 or more years	1 of 20	5%
<b>TOTAL</b>	<b>20</b>	<b>100%</b>

#### **4.5.2 No of Years of employed with DTVET**

The responses show that 50% of practitioners had been employed with DTVET from 1-5 years. These could be seen as relatively new. Six persons had been employed between 6-10 years, 3 had been employed between 11-15 years and only 1 participant had been employed for 20 years and over. The range in the number of years employed supports PD's view in Section 4.5.2 that there should be an

evaluation mechanism that assesses training needs on a continuous basis in order to determine skills gaps for new as well as longer serving practitioners. Training should be based on empirical data which show training gaps for each practitioner regardless of his/her length of service.

### 4.5.3 Gender

There was a balance between male and female participants. This balance showed a change in TVET landscape which historically was male dominated.

TABLE 11 GENDER

<b>GENDER</b>	<b>No. respondents</b>	<b>%</b>
MALE	10 of 20	<b>50</b>
FEMALE	10 of 20	<b>50</b>

### 4.5.4 Qualifications

All the participants had tertiary level qualifications. Of the twenty participants 15 had Bachelor's degrees (75%) and five had Master's level qualifications (25%). One participant (5%) responded to the item on "other qualification." This PD indicated having Develop a Curriculum (DACUM), which is a Canadian qualification. Only two persons had qualifications in Education and Training. Table 12 gives an overview of participants' qualifications.

TABLE 12 QUALIFICATIONS

Bachelors	15 of 20	75%
Masters	5 of 20	25%
Other	1 of 20	5%

#### 4.5.5 Training

The majority of participants indicated they had had BTEP training (85%). Three participants (15%) indicated they had had other training in curriculum development. The high rate of responses in relation to BTEP training validated the dissatisfaction stated by participants in Section 4.5.2 in which the BTEP method of delivery was said to lack context and the opportunity for practitioners to apply learning to real problems. The number of practitioners who had training in curriculum development is shown in Table 13 below:

TABLE 13 TRAINING IN CURRICULUM DEVELOPMENT

BTEP phase training	17	85%
Other	3	15%

#### 4.5.6 Abbreviations

The abbreviations, terminology and response values used in the questionnaires and throughout this discussion on LLL skills are shown in Table 14 and Table 15 respectively.

TABLE 14 ABBREVIATIONS FOR LLL SKILLS

<b>LLL skills</b>	<b>Abbreviation</b>
Communication skills	Coms
Personal and interpersonal skills	PIPs
Numeracy skills	No abbreviation
Information communications and Technology skills	ICTs
Data Management skills	DMs
Problem solving skills	PSs
Self-management skills	SMs

#### 4.5.7 Questionnaires

TABLE 15 VALUES ON THE LIKERT SCALE

<b>Terminology</b>	Value
Strongly agree	4
Agree	3
Uncertain	2
Disagree	1

Participants were required to use the values in Table 15 to rate each of the LLL skills shown in Table 14. The total number of questionnaires administered was 20. The number of persons responding to questionnaires was 20 (n=20). The response rate was therefore 100%. In order to calculate scores and convert numbers into percentages the following steps were taken:

Scores for each item under job roles were added; this total was divided by the highest possible score that could be obtained from 20 participants ( $4 \times 20 = 80$ ); this figure was multiplied by 100 in order to get a percentage of the responses; percentages were rounded off to whole numbers.

The discussions on the responses for each LLL skill and corresponding job roles are shown below in Tables 16-24.

#### 4.5.8 Communication

Communication was seen as very important in all areas of PDs' jobs with the highest responses being for administration followed by curriculum development. Table 16 gives an overview of the responses while Figure 6 gives a graphic representation of the data.

TABLE 16 COMMUNICATION

Job Roles	Responses to LLL skills %
1. Administration	97
2. Research	85
3. Curriculum design	87
4. Curriculum development	95
5. Curriculum implementation	92
6. Curriculum evaluation	87
7. Assessment writing	83
8. Co-ordinate committees	88
9. Maintain links with industry	93

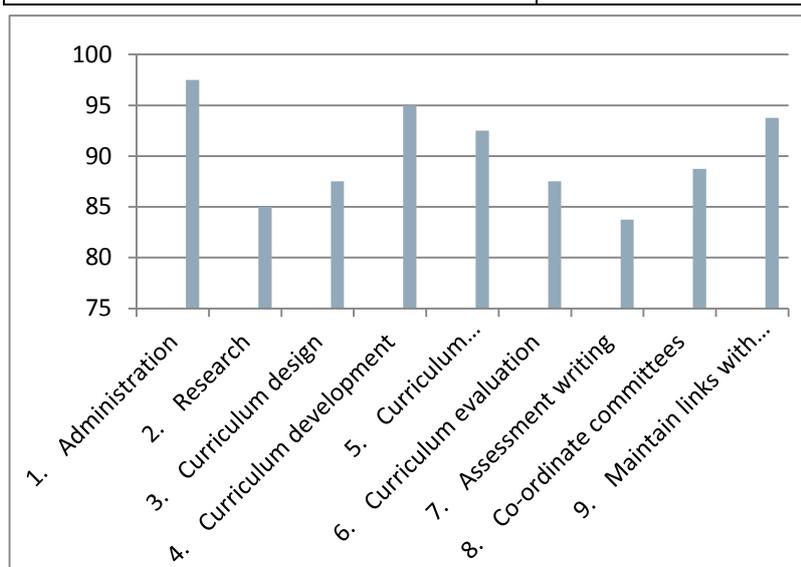


FIGURE 6 COMMUNICATION

All responses fell within the fourth quartile with 97% being the highest score and 83% the lowest score. These high responses indicated that communication is a very important skill which participants required to perform effectively across all areas of their jobs. The responses concurred with qualitative data in Sections 4.4.1, 4.4.2 and 4.4.3 in which practitioners indicated that TLs were responsible for “information sharing, “guiding and mentoring.” One participant alluded to the need for practitioners to develop “reading and comprehension skills,” The similarities in the

data therefore validate the fact that communication is a LLL skill that participants require for their CPD.

#### 4.5.9 Personal and Interpersonal Skills

Responses for PIPs were slightly lower as compared to those for communication skills: the highest score being 91% and the lowest 70%. Table 17 gives an overview of responses while Figure 27 gives a graphic representation of the data.

TABLE 17 PERSONAL AND INTERPERSONAL SKILLS

<b>Job Roles</b>	<b>Responses to LLL skills %</b>
1. Administration	91
2. Research	76
3. Curriculum design	70
4. Curriculum development	78
5. Curriculum implementation	91
6. Curriculum evaluation	86
7. Assessment writing	76
8. Co-ordinate committees	87
9. Maintain links with industry	90

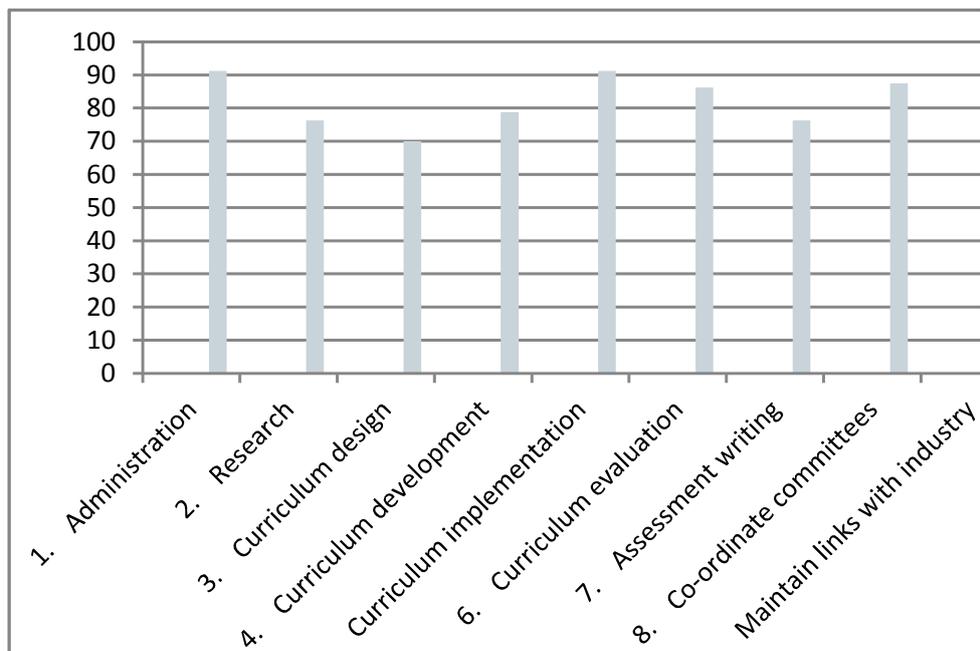


FIGURE 7 PERSONAL AND INTERPERSONAL SKILLS

Most scores fell within the fourth quartile except for responses related to curriculum design which fell within the third quartile. The data implied that PIPs were highly necessary especially where there was the need to interact with others such as for administration, curriculum implementation and evaluation and to maintain links with industry. These data are supported by the qualitative data in Section 4.4.3 where participants underscored their challenges with overcoming cultural barriers which caused them to feel “intimidated,” and therefore prevented them from being assertive in dealing with persons seen to be in authority. The need for interpersonal skills is also evident based on the need for practitioners to lead curriculum development groups, build relationships with industry and to perform as part of a team. Participants also reported on the need for introspection, a key aspect PIPS.

#### 4.5.10 Research

Responses on the need for research skills yielded the highest results of all the LLL skills. Table 18 gives an overview of responses while Figure 8 gives a graphic representation of the data.

TABLE 18 RESEARCH SKILLS

Job Roles	Responses to LLL skills %
1. Administration	60
2. Research	82
3. Curriculum design	98
4. Curriculum development	92
5. Curriculum implementation	80
6. Curriculum evaluation	87
7. Assessment writing	86
8. Co-ordinate committees	63
9. Maintain links with industry	85

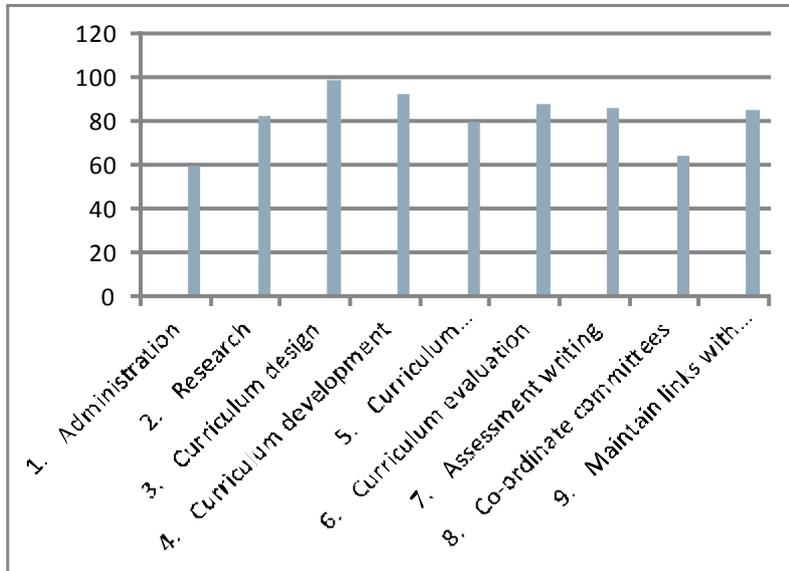


FIGURE 8 RESEARCH SKILLS

The highest score (98%) was for curriculum design and the lowest (60%) for co-ordinate committees. This data support the perceptions held by participants referred to in Section 4.4.2, where participants indicated the need to be trained in research

methodologies and the importance of DTVET having a research department. The data also concur with the fact that Botswana, like the rest of the world, is moving toward a knowledge society in which research skills are essential to keep abreast of a variety of areas which impact on everyday work.

#### 4.5.11 Information Communication Technology

The responses for ICT were highest in the areas of curriculum design and implementation. Table 19 gives an overview of responses while Figure 9 gives a graphic representation of the data.

TABLE 19 INFORMATION COMMUNICATIONS AND TECHNOLOGY

<b>Job Roles</b>	<b>Responses to LLL skills %</b>
1. Administration	83
2. Research	92
3. Curriculum design	95
4. Curriculum development	95
5. Curriculum implementation	92.
6. Curriculum evaluation	90
7. Assessment writing	88
8. Co-ordinate committees	75
9. Maintain links with industry	76

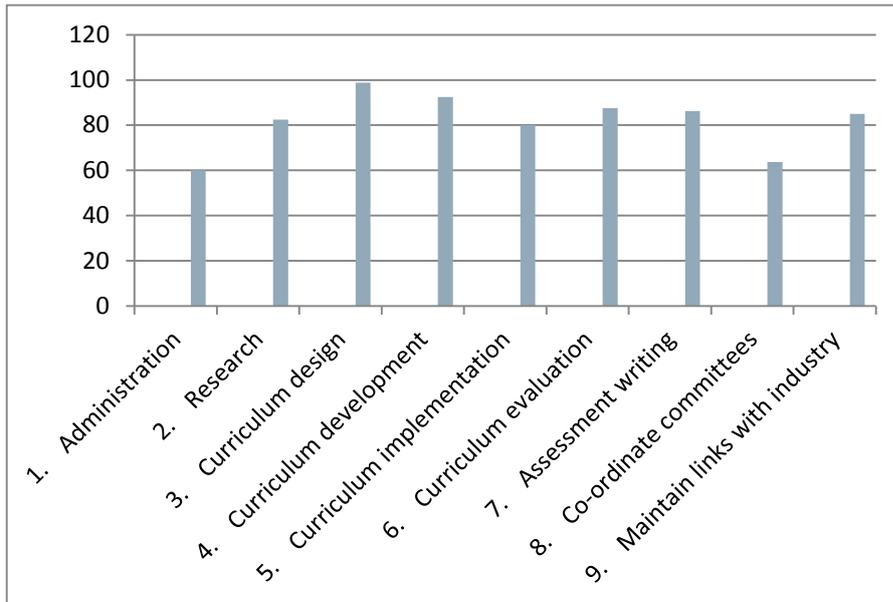


FIGURE 9 INFORMATION AND COMMUNICATION TECHNOLOGY

Curriculum implementation and research shared the same score of 92%. Most scores fell within the fourth quartile indicating that ICT was required across all job roles. These data converge with literature which highlighted the impact of technology on how work is done in today's world. Data also concurred with participants' responses presented in Section 4.4.2 where practitioners stated the need for training in ICT.

#### 4.5.12 Problem Solving Skills

The responses for Problem Solving Skills were lower than those for Communication, PIPS, ICT, and Research. Table 20 gives an overview of responses while Figure 10 gives a graphic representation of the data.

TABLE 20 PROBLEM SOLVING

Job Roles	Responses to LLL skills %
1. Administration	82
2. Research	77
3. Curriculum design	87
4. Curriculum development	83

5. Curriculum implementation	82
6. Curriculum evaluation	77
7. Assessment writing	82
8. Co-ordinate committees	87
9. Maintain links with industry	78

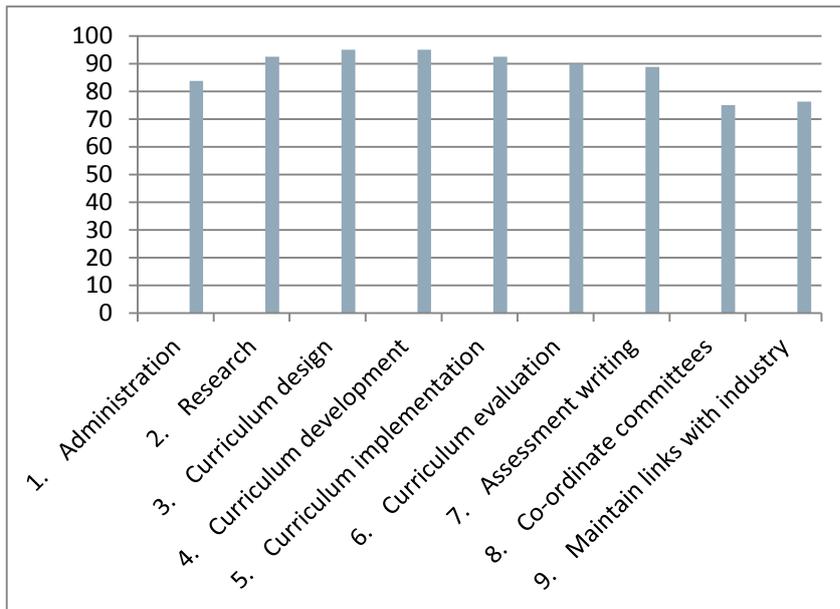


FIGURE 10 PROBLEM SOLVING

All scores fell within the fourth quartile, demonstrating a high demand for problem solving. The highest scores were in relation to curriculum design and coordinating committees. The data corresponded with those presented in Section 4.3.3 where participants stated the need for problem solving skills as they managed the process of curriculum development.

#### 4.5.13 Change Management

The responses for Change Management were the lowest of all the scores. Table 21 gives an overview of responses while Figure 11 gives a graphic representation of the data.

TABLE 21 CHANGE MANAGEMENT

Job Roles	Responses to LLL skills %
1. Administration	76
2. Research	60
3. Curriculum design	71
4. Curriculum development	66
5. Curriculum implementation	72
6. Curriculum evaluation	67
7. Assessment writing	63
8. Co-ordinate committees	66
9. Maintain links with industry	68

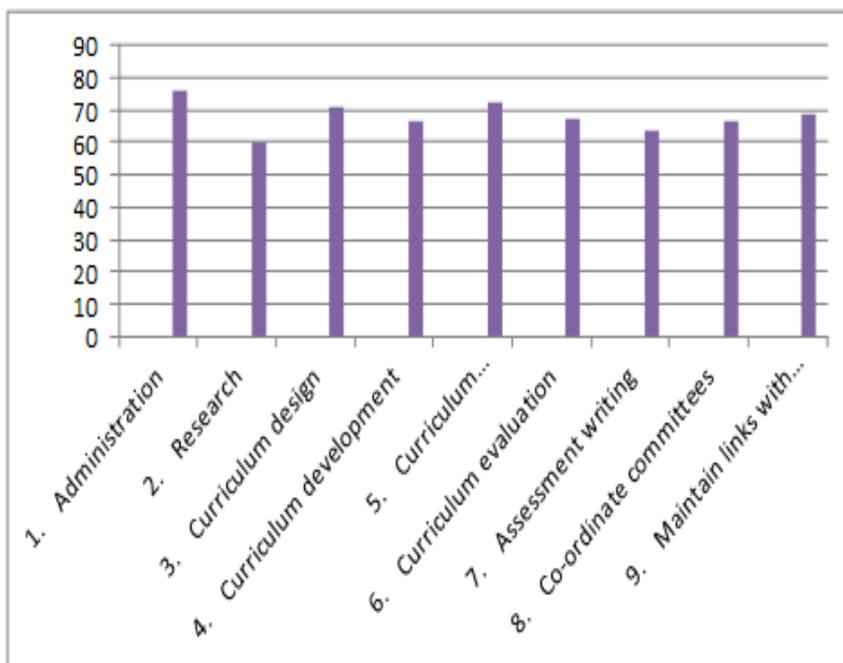


FIGURE 11 CHANGE MANAGEMENT

The highest score was related to administration at 76%. The lowest score was 60% related to Research. Most scores fell within the third quartile. Only one score was within the fourth quartile. These scores illustrated that the perception of change management was still in its infancy as a solution to the root cause of the barriers

identified by participants. The researcher interpreted these scores as an indication that participants needed to be guided through the tenets that account for a mind-set change. These tenets are attitude, beliefs and values. However, the data concurred with those presented in Section 4.4.3 where participants indicated that they required professional guidance in changing mind-set.

#### 4.5.14 Working as a Team

Scores for Working as a Team were high and fell within the fourth quartile. Table 22 gives an overview of responses while Figure 12 gives a graphic representation of the data.

TABLE 22 WORKING AS A TEAM

<b>Job Roles</b>	<b>Responses to LLL skills %</b>
1. Administration	87
2. Research	82
3. Curriculum design	87
4. Curriculum development	97
5. Curriculum implementation	92
6. Curriculum evaluation	92
7. Assessment writing	97
8. Co-ordinate committees	95
9. Maintain links with industry	93

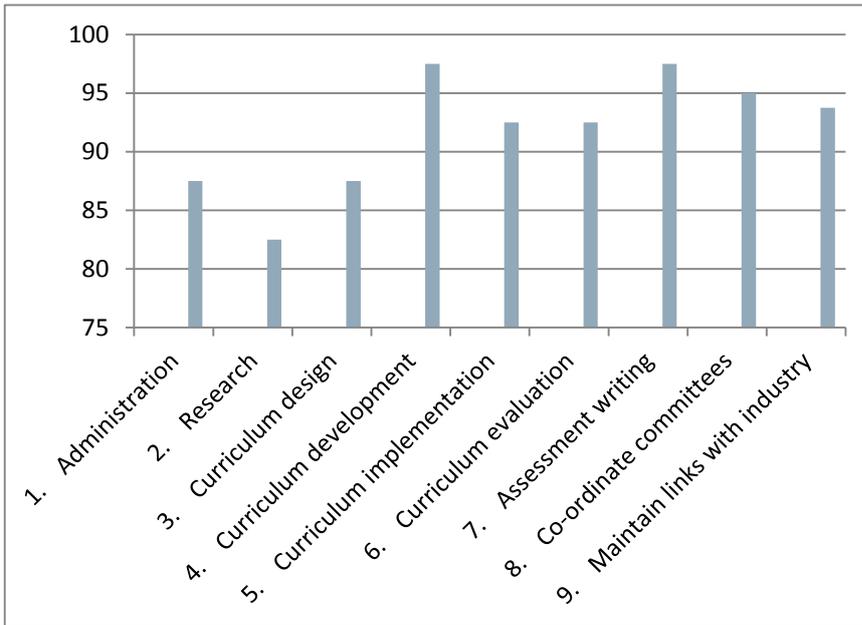


FIGURE 12 WORKING AS A TEAM

The highest scores were 97% for curriculum development and assessment writing and the lowest score 82%. These high scores were an indication of the value practitioners attached to working as a team. The views stated in Section 4.3.3 supported the importance participants placed on team work.

#### 4.5.15 Management Skills

The scores for management skills were in the fourth quartile. Table 23 gives an overview of the responses while Figure 13 gives a graphic representation of the data.

TABLE 23 MANAGEMENT SKILLS

Job Roles	Responses to LLL skills %
Administration	90
Research	75
Curriculum design	77
Curriculum development	75

Curriculum implementation	86
Curriculum evaluation	83
Assessment writing	82
Co-ordinate committees	92
Maintain links with industry	87

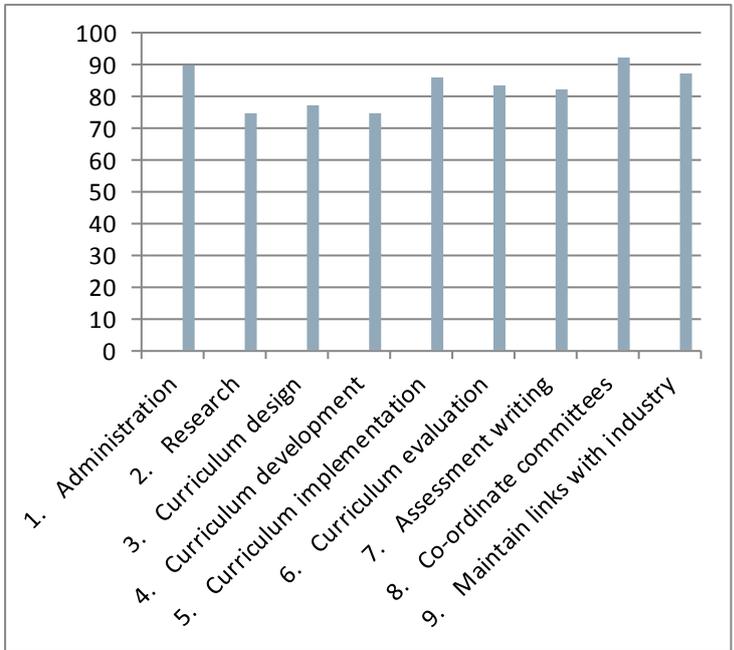


FIGURE 13 MANAGEMENT SKILLS

The highest score was 92% for coordinating committees followed by 90% for administration. The lowest scores were 75 % for research and curriculum development. These statistics indicated that much of what participants do on a daily basis involved management and therefore training in this area was a priority. This need was discussed in Section 4.3.3 where participants referred to keeping abreast with industry, and managing teams involved in the curriculum development process.

#### 4.5.16 Learning to Learn Skills

Most of the scores for learning to learn skills fell within the fourth quartile. Table 24 gives an overview of responses while Figure 14 gives a graphic representation of the data.

TABLE 24 LEARNING TO LEARN SKILLS

Job Roles	Responses to LLL skills %
1. Administration	73
2. Research	77
3. Curriculum design	85
4. Curriculum development	85
5. Curriculum implementation	86
6. Curriculum evaluation	85
7. Assessment writing	83
8. Co-ordinate committees	78
9. Maintain links with industry	78

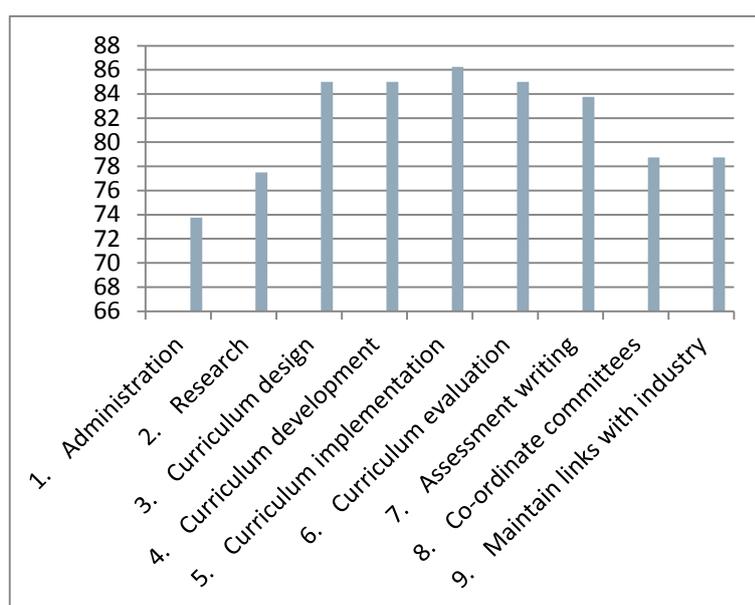


FIGURE 14 LEARNING TO LEARN SKILLS

Most of the LLL skills fell within the fourth quartile with few falling in the third quartile. These high scores confirm participants' perception of the need for LLL as a strategy for CPD. They may also serve as a guide to define the key competencies required by PDs and design training that is aligned to the needs of PDs.

## 4.6 Summary of Research Findings

Chapter Four provided a platform for the researcher to identify and discuss the factors that impacted on programme developers' CPD. These factors included globalization and technology, the role of the organization as well as the roles of programme developers. The issue of change in terms of technology, educational and management models was highlighted as reasons for LLL for CPD. Roles were discussed in terms of participants' perceived role of DTVET and the actual role DTVET played in providing an environment that promoted LLL. Data indicated that participants were dissatisfied with DTVET level of participation for LLL. Participants stated that DTVET should provide leadership through policy direction and creating a culture of learning.

There were two divergent views from PDs about individual roles. A minority of participants believed that CPD was the responsibility of individuals while the majority believed that DTVET was responsible for their CPD. Barriers and motivators to LLL and CPD were dispositional and institutional. Barriers were discussed within two categories, institutional and dispositional. Dispositional barriers referred to psychological factors experienced by PDs, centring on historical and social issues such as a national culture of collectivism as opposed to individualism. This culture was said to be a barrier in that it did not promote personal-responsibility and the freedom to ask questions. Institutional barriers centred around issues of leadership, policies for staff development, communication and reflection in and on practice. Other barriers identified were in relation to training and lack of evaluation and reflection on training models. Training was said to be focused on function as opposed to process. Finally, the discussion focused on the LLL skills participants perceived were necessary for their continuous professional development. The responses to the need for the identified LLL skills reflected that participants strongly agreed that they were of high importance across most of their job roles. The highest to the lowest ratings were: research skills (98%), team work (97%), it should be noted that teamwork scored 97% across three job roles, communication (97%), ICT (95%), management skills (92%), personal and interpersonal skills (91%), problem

solving skills (87%), learning to learn skills (86) and change management skills (76%).

The data showed conclusively that LLL as a strategy for CPD was highly valued by practitioners. The results also indicated that LLL was the responsibility of both the organization and individuals. The data provided answers to address the research problem and question. It also provided a framework for developing a model for CPD for practitioners in DTVET.

## **Chapter 5: Summary and Conclusions**

### **5 INTRODUCTION**

Chapter Five presents conclusions of the study with reference to the problem postulation and aims of the study which were to define the role of DTVET in CPD and the role of practitioners in their CPD. Further the study sought to identify the barriers to “on-the-job” learning and training; identify the motivators and the LLL skills practitioners required for their CPD. Data derived from qualitative and quantitative instruments were analysed independently, corroborated, and compared to the literature review. This information was then amalgamated to arrive at conclusions of the study.

In the new knowledge economy, driven by technology, curriculum practitioners in Botswana were hampered in their CPD and struggled with the constant rate of change which is a characteristic of such an economy. From the literature review LLL skills and CPD were identified as some of the strategies for developing curriculum practitioners who are reflective on their practice, proactive and can manage the changes the knowledge economy brings. The concept of learning through life is viewed as a strategy for workers to adapt to the evolving requirements for their social, economic and professional development (Delors Report, 1996). Botswana being a signatory to UNESCO’s MDGs and SDGs means that DTVET has the responsibility to develop strategies to enable TVET educators to acquire 21st century skills in relation to curriculum development. CPD is seen as a strategy for developing these skills.

Findings from the literature review and from the research amongst practitioners are summarised in this chapter. A discussion on limitations in the research with recommendations for future research is also presented.

## 5.1 Findings in the Light of the Literature

The main research question was, *“To what extent could LLL be implemented as a strategy for improving professional development of TVET curriculum developers in DTVET?”* To answer that question assumptions about the practitioners were that they were adult learners, motivated to pursue CPD and that there were support systems in place for them to do so.

The practitioners of DVET are characterised as adult learners. In terms of the literature review, the principle of andragogy posits that adults learn differently from children and that they also learn for different reasons, such as an immediate need or problem to be solved (Knowles, 1990). Adults in an individualistic culture are self-directed learners; all adults base their self-concept on past experiences, beliefs, and assumptions. Motivators to adult learning are said to be both intrinsic and extrinsic. Within postmodern concepts of education for CPD, such as the transformation model, the shift has been from fixed, closed models (Tyler’s) to open models (Stenhouse’s, Freire’s, Lave and Wagner’s) and is a holistically-centred approach. This model as advocated by Kennedy (2005) is focused on professional development strategies in which educators are proactive as opposed to on-lookers in their world. Activities which provide development through this transformational approach are self-directed and include self-reflection, individual growth plans, professional portfolios and journaling (Kennedy, 2005). To achieve quantifiable outcomes, organizations and individuals must intentionally plan for, and engage in CPD. The elements of a planning model for CPD include the idea of plan, act, evaluate, and improve. Examples of activities within the transformational model of CPD include action research, and a multi-method approach, that is, the use of a combination of methods (action research, training, cascading, coaching and mentoring) to achieve the desired outcome. In the transformational model reflection on practitioners’ and learners’ beliefs, values and assumptions that underlie how they learn and provide an opportunity for them to remove barriers to learning are considered significant. This is the ideal.

It is especially important for DVET employees to accommodate the idea. For them barriers to learning (common among adults) include fear of what is new and anxiety to question authority; they feel comfortable with formal modes of learning. An important factor from the findings can be restated here, given the communal culture of Botswana, individual striving for CPD is a rarity, so that the prevailing western idea of self-directed learners has to be carefully contextualised for DVET practitioners in Botswana. As adult learners, basing strategies for CPD on the idea of self-direction amongst adult learners has first to be qualified and modified by the cultural context of Botswana. Though participants could be classified as adult learners in terms of age, their experience of learning was quite different from Knowles' middle class, Caucasian -American learners. The main difference being that Knowles' adult learners came from an individualistic society in which self-independence was a part of their culture. The participants in this study came from a society where the community was considered more important than the individual (Ubuntu). This contrast in beliefs, values and assumptions provided an understanding as to why participants felt that the management was responsible for their CPD.

Further, barriers to CPD for DVET practitioners were perceived as related to poor communication, inadequate training, poor self-image and a flat departmental structure. Participants identified poor communication as cited in for instance, a lack of policy on LLL for CPD. On an operational level there was poor communication, for example, in linking job descriptions with key competencies. Feedback in the communication process as a way of understanding how information is subjectively filtered by employees has been noted by researchers (Bruner, 1973; Knowles, 1990); Mullins, 2005). Knowles underscored the importance of communication for the adult learner. For adults to be motivated, directed, reflective and participatory there has also to be top down and bottom up communication.

Responses from DVET practitioners about training showed they thought it to be insufficient or poor or not what was expected for CPD. The majority of participants indicated that they did not see CPD as the main responsibility of the individual. Only a minority of participants stated that CPD was the responsibility of the individual, rather it was the department's responsibility. However, as knowledge is the

foundation of modern economies (Adams, 2007) learning is the central factor for economic and sustainable development. UNESCO, at its Third International Congress on Technical Vocational Education and Training (TVET, 2012) emphasised the importance of LLL characteristics of workplace learning and the need to have them reflected in the national TVET strategies and policies. Training methods used to date for CPD, such as cascading (Kennedy, 2005:238) or BTEP phase training, were not helpful to practitioners, but they still felt traditional formal training would be the answer. The transmission and transactional methods had so far not encouraged deep learning through reflection on concrete experience. But research suggests that the transformational method would be better, with its integration of a range of methods, and its potential to allow educators to be actively involved in their learning. In this way adult learning is problem-centered (Knowles, 1990). BTEP phase training could be more effective if it included more hands-on activities, if learning were centred on real work-based problems and if it were delivered continuously instead of as a one-off activity.

For many practitioners they had a sense of having lost interest in the work as they felt unwanted by the department because their needs were not met for CPD in the current context. This reference to poor self-image by participants reflects Knowles' (1990) ideas about the importance of self-concept in the adult learner. The sense that the department had no regard for the practitioners' beliefs, values and attitudes supported as they were by their prior knowledge and experience left them with a negative self-concept. Adult educators (Viljoen, 2013) have underscored the importance of maintaining adult learners' positive self-concept by valuing their knowledge and experience and using it as scaffolding to present new information. Resolving conflicts of dialectically opposed methods of adaptation to new modes of training and learning is a necessary condition for change (Kolb, 1984:29). Changing the poor self-image of practitioners to a positive one despite hard held beliefs could start with understanding the need to hold on to old theory as a self-protection strategy (Argyris & Schon, 1974). To be aware of this tendency would enable DTVET to respect participants' experience, create spaces where participants could reflect on their values, beliefs, and assumptions and assist them to recognize barriers caused

by these. In this way participants would take responsibility for their learning by developing the skill of reflection: a key characteristic of LLL.

The participants' responses to the need for the identified LLL skills reflected that participants strongly agreed that they were of high importance across most of their job roles. Scores from the data represent the highest to the lowest ratings: research skills (98%), team work (97%), it should be noted that teamwork scored 97% across three job roles, communication (97%), ICT (95%), management skills (92%), personal and interpersonal skills (91%), problem solving skills (87%), learning to learn skills (86) and change management skills (76%). These skills directly address the issue of learning to learn because of the changing work environment. They also address the need for reflection on values and beliefs which is necessary to resolve theoretical conflicts. The reference to research skills directly addresses the knowledge society in which practitioners live and work and the requirement for them to be seekers of knowledge. Qualitative data indicated the need for management skills, problem solving in the process of developing a demand driven curriculum.

Extrinsic factors such as money, promotion, recognition and accreditation were the generally cited motivators for CPD amongst the practitioners. This viewpoint was in contrast to the view discussed in the literature which underscored the fact that adult learners were mostly intrinsically motivated (Viljoen, 2013). One practitioner alluded to intrinsic motivators for adult learning; personal development, personal interest, and the maintenance of a learning identity. Although Bye et al, (2007) identified self-improvement and personal growth as key motivators for adult learners, the context was a western first world one, unlike the situation in Botswana, where extrinsic goals such as financial gain were the key motivators.

In spite of this general view, participants identified three existing motivators within the department. These included working as a team, mentorship, and personal development plans, although there was a general sense that the teams no longer worked. The first two motivators bore similarities to concepts posited among researchers that there was a value in learning in "communities of practice." Lave and Wenger (1991:33) argue that social interaction is a critical component of learning on-

the-job. About personal development plans being valued as a motivator, participants' views demonstrated the concept alluded to by Mullins (2010:448) who referred to the importance of goal setting and outcome thinking for sustained and improved performance and development. All of this presupposes learning.

If learning is seen to be embedded in the activities and situations in which it occurs (Brown, 1987), then the situated learning in the workplace of the practitioners can be a cognitive process as well as a social construct. As individuals engage in goal oriented activities, they access, manipulate, and transform cognitive structures (Billet, 1996:271). Informal workplace learning introduces a new epistemology of practice (Holford, Jarvis & Griffin, 1998:229). This concept of practice being the best teacher is advocated by third force educators such as Dewey (1938), Kolb (1984) and Soni (2012). The acquisition of new skills and knowledge cannot be restricted to formal educational settings. The traditional training method is unable to provide on-going, real life, problem-centred development. Effective development needs to be integrated into the work process. Soni (2012), Dewey (1934), and Kolb (1984) suggest that by integrating working and learning, people will construct solutions to their immediate problems, and the systems at work will advise them when there is a mistake and provide the relevant information. Kolb's ELT is based on an epistemology which views ideas as formed and reformed through experience. These concepts are derived from and continuously modified by experience, thus providing a framework for situational learning. Practitioners need to develop higher order thinking skills such as effective communication, teamwork, problem solving and creative thinking, in order to manage the diversity of the work environment. The four step process in Kolb's ELT: identification of the problem, reflection on the problem, formulation of a theory based on generalization and application of the theory to new situations, enables adult learners to develop these higher order cognitive skills. The ability to form concepts and generalisations is a key requisite for surviving change in the knowledge society.

Data revealed that participants were of the view that the flat structure of the department was a barrier to their CPD. The reason cited for this perception was that there was no opportunity for promotion. This was seen as a demotivating factor for

practitioners to increase and expand their knowledge and skills. This view bore a similarity to a goal oriented learner who engages in learning to achieve a specific outcome, in contrast to learners who are intrinsically motivated. On the one hand the general view in the literature was that adult learners were different from children in that they were intrinsically motivated to learn: yet, participants identified no promotion, a lack of recognition and no extrinsic motivators as barriers to CPD. The emphasis by participants on extrinsic as opposed to intrinsic motivators for CPD can be contextualised as an institutional barrier. Viljoen (2013:34) described institutional barriers as apprehension about policies and administrative procedures.

The presupposition that adults are LL learners and divergent thinkers able to identify data to answer questions and communicate well; locate relevant resources; select and use the most efficient means of collecting data from appropriate sources (Knowles, 1980:27) has not been the experience of the practitioners generally in DVET.

Research findings about the perceived importance of CPD for curriculum practitioners in DVET showed that to keep up with change (driven by globalization) made it an essential career activity. It was believed that it was through CPD that pedagogical and technical competence could be increased as well as management skills developed. To stay abreast with industry, CPD was critical. The thinking behind these observations is in line with Delors' four pillars of education and the fifth pillar, "Learning to Change" (UIE, 2003). It was recognised that acquisition of new skills and training should not be restricted to formal education settings (Soni, 2012). The way in which programme development was currently done required curriculum developers to manage, problem solve, think critically, work as a team in the organization, manage information and collaborate with industry to stay abreast of technology - along the lines of the principles of LLL (UNESCO-UNEVOC, 2007; 2012; SAQA, 1995; CAD, 2008). LLL skills as early as the 1980s were recognised as arising out the shift in educational philosophies and an approach to learning as an interactive process requiring educators to adapt a hermeneutical, narrative approach as opposed to a behaviourist approach (Bruner, 1986).

## 5.2 Conclusion

The literature review for this study indicated that LLL and its corollary CPD were viewed by international and national organisations as well as by the GOB as key to addressing the higher order metacognitive skills required for working in a constantly changing work environment. The paradoxical nature of applying the findings in literature on LLL and CPD from cases outside Botswana emphasised the value of the study in that it revealed the mind set of practitioners. The practitioners recognised the importance and value of LLL and CPD but showed their rather slower response to technological challenges than practitioners from first world backgrounds. Their interdependence on each other was something they recognised as most had learned from other practitioners what they had to do on the job rather than from any induction. That they were sad that teams "were dead" was another factor suggesting that communities of practice were not unknown. The data showed the highest score for team work and communication (teamwork scored 97% across three job roles). The significance attributed to teamwork as a function of community reflects the mind set and beliefs of the practitioners. Recognition was given to other skills as important which shows a shift towards self-awareness. ICT, management, personal and interpersonal skills were in the range of 90% and above; followed by problem solving skills, learning to learn skills and change management skills, all above 80%. However, the behaviourist approach to education and learning and training was still very much in evidence, rather than trusting informal training and learning from problem solving. The disjuncture between preparing curricula for learners but failing to see themselves as learners who, because they are adults, did not have to learn in the formal way of children and adolescents, was clear in the data. An increase in cultural awareness and its leavening effect on self-awareness and personal development might have been precipitated by this research. So too might there be an emerging attempt to see curriculum development as ancillary to the wider picture of an economy which is technological, industrial and whose citizens have to exchange knowledge very rapidly and often informally.

DTVET would need to be intentional in promoting a culture of reflection-in and on action as alluded to by Schon (1978:2). Schon's theory on reflection underscored the importance of reflection as it enabled one to look inward on preconceived values and beliefs which conflicted with new information and/or new culturalisation.

The data indicated that the main research question, "To what extent could LLL be used as a strategy for CPD?" was adequately addressed and positively answered. However, the general view was that participants needed organizational support to fully engage in CPD.

### **5.3 Limitations**

The study was confined to one department in the Ministry of Education and Skills Development in Botswana and reflects the perceptions of a select group of participants and should not be generalized to other groups in other departments. In addition, national literature about Botswana is limited. Available literature on the research problem - exploring lifelong learning as a strategy for professional development of TVET curriculum developers in Botswana -had to be from primarily western first world research. This does not take into account the cultural habits of thinking and learning as exhibited by most practitioners in Botswana; the literature assumes adults to be extrinsically and intrinsically motivated to learn. The researcher had mostly to rely on information from literature relating to LLL and CPD from international and regional studies. One of the initial aims of this study, to determine criteria for CPD, was abandoned following the piloting of research questions. The reason for this was that participants had great difficulty in answering this question. It was replaced with questions relating to the roles of DTVET and practitioners. Further research could be carried out to determine what criteria could be used to quantify CPD activities.

## CHAPTER SIX

### 6 RECOMMENDATIONS

In this final chapter there is a restatement of the context in which the recommendations are made, the recommendations and finally a model are represented which might be used for CPD for DTNET practitioners on the ground. The main research question of whether *LLL could be implemented as a strategy for improving professional development of TVET curriculum developers in DTNET* was resolved in the findings of the data. Existing conditions and opportunities can be developed and reviewed to support LLL amongst curriculum developers.

#### 6.1 Context

The GOB Vision 2016 defines the principles and goals for the transformation of Botswana from a mineral to a knowledge based society. This vision is grounded in the philosophy of LLL which gives opportunities for citizens to continue developing through formal and informal learning. The European Commission (2010:6) describes professional development for educators as a LLL process consisting of different stages: initial teacher education; induction and in-service CPD. The CPD of educators is seen as a priority in the National Human Resource Development Strategy (NHRS, 2009). The key challenge is for LLL characteristics of workplace learning to be reflected in national TVET strategies and policies. Workplace learning needs to be seen and planned for as part of national strategies (UNESCO, 2012: 19). Several countries within the Southern African Development Community (SADC) have implemented initiatives to support LLL. Examples of these include National Qualifications Frameworks; with opportunities for recognition of informal and formal learning; and Botswana National Development Plan 9 (2003-90) (NDP, 15:1) which stresses the need to “create opportunities for lifelong learning.” In line with these aims is one of the goals of the Government of Botswana (GOB) National Human Resource Strategy (NHRS, 2009) which calls for the development of Botswana through the realization of individual capacities and potentials. With the amount of

support and recognition for CPD politically, educationally and socially, the time is fertile for the implementation of recommendations to support practitioners.

## **6.2 Recommendations**

To overcome the negative view participants had of the role of the organization, DTVET, in relation to CPD, there was a need for management to provide policy direction for CPD. On-the-job learning strategies would be part of the policy so that a learning culture within the organization could develop as well as self-directed learning skills in practitioners.

### **6.2.1 Policy**

To address the organisational issues the following recommendations are proposed, that a departmental policy is developed as soon as possible. Explicit attention should be given to:

- the roles of the organisation, managers, supervisors, and practitioners for CPD;
- annual minimum number of hours for CPD;
- different types of CPD activities;
- types of evidence for CPD;
- directions to the support available through the department for CPD;;
- critical competencies (aligned to job descriptions) that practitioners must attain.

### **6.2.2 Resource Centre**

A resource centre to support organisational and individual research should be set up with a supply of materials (physical and through internet) to address the variety of needs LL learners have in curriculum development. With the establishment of such a resource centre it would be possible to belong to the broader community of practice

nationally and internationally for content development, soft skills and IT development.

### **6.2.3 Standards**

A team should be convened to start the process of developing standards for BTEP Phase training. Practitioners themselves could use this opportunity to share their knowledge and experience so that the modules developed and once accredited would enable learners to ensure that best practice standards were in place. Learners would be able to accumulate credits.

### **6.2.4 Training**

DTVET should conduct regular training needs analysis to identify skills gaps of practitioners. This skills audit should be aligned to job descriptions. DTVET should provide training on a continual basis. Evaluation of training should be mandatory in order to identify teaching and learning gaps.

### **6.2.5 Portfolios**

DTVET should institutionalise portfolio evidence for CPD. Portfolios must include practitioners' reflection on their educational philosophy and educational methodology. In this way self-reflection and self-awareness could be developed.

### **6.2.6 Industry**

DTVET should encourage any existing links with industry and establish new ones to enable practitioners to benefit from work attachment.

## **6.3 Model of LLL for CPD**

The model below conceptualises the LLL strategy which could be implemented by DTVET for continuous development of practitioners. The LLL skills which have been identified as necessary are shown on the periphery while the elements of policy,

continuous training and links with industry are at the centre of the diagram, indicating their centrality to the process of CPD.

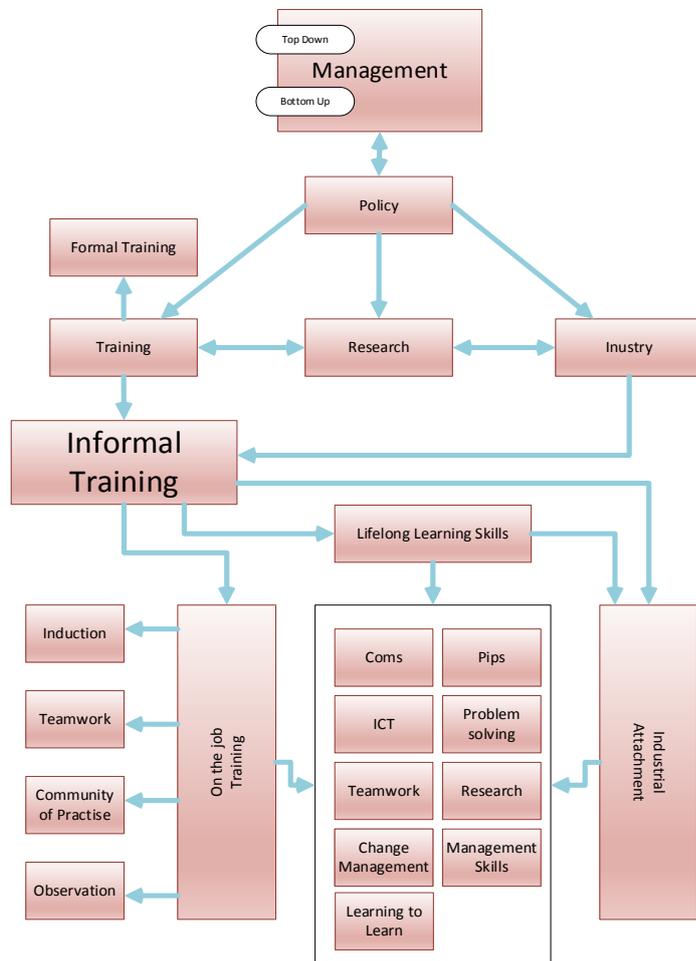


FIGURE 15 CONCEPTUAL MODEL OF LLL FOR CPD IN DTET

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## 8 ADDENDA

## 8.1 Approval to Conduct Research in DTVET

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MINISTRY OF EDUCATION  
DEPARTMENT OF TECHNICAL AND VOCATIONAL  
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20 June 2014

Ms. Joanna Rocke-Collymore  
Private Bag 0062  
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Dear Ms Collymore

**RE: Approval to Conduct Research in the  
Department of Technical Vocational Education and Training**

Reference is made to your letter dated 20 June 2014, requesting approval to conduct research in the Department of Technical Vocational Education and Training (DTVET). Approval is granted for the research to be conducted with the understanding that the project will be conducted as described in the Information Statement, a copy of which I have retained.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'O. Akoonyatse'.

O. Akoonyatse  
For/Acting Director

## 8.2 Research Ethics Clearance - UNISA

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### Research Ethics Clearance Certificate

This is to certify that the application for ethical clearance submitted by

**JM Roche-Collymore [35988355]**

for a M Ed study entitled

**Exploring lifelong learning as a strategy for professional Technical Vocational  
Education and Training curriculum developers in Botswana**

has met the ethical requirements as specified by the University of South Africa  
College of Education Research Ethics Committee. This certificate is valid for two  
years from the date of issue.

Prof KP Dzvimbo  
Executive Dean : CEDU

Dr M Claassens  
CEDU REC (Chairperson)  
[mcdtc@netactive.co.za](mailto:mcdtc@netactive.co.za)

Reference number: 2014 MAY /35988355/MC

19 MAY 2014

### **8.3 Invitation to take Part in Research**

Joanna Rocke-Collymore  
Student number: 35988355  
Plot 51398 Kgale View  
Botswana

June 2014

**Dear \_\_\_\_\_,**

#### **Information Statement for the Research Project:**

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Exploring lifelong learning as a strategy for professional TVET curriculum  
developers in Botswana

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You are invited to take part in in the research project identified above which is being conducted by Ms Joanna Rocke-Collymore in partial fulfillment of the requirements for the Master's in Education (Adult Education) from the College of Education at University of South Africa. The research has been approved by the Ministry of Education and Skills Development (MOE&SD), and the Director, Department of Technical Vocational Education and Training (DTVET).

#### **Purpose of the research**

The purpose of the research is to explore curriculum developers' views on how lifelong learning could be used as a strategy for their continuous professional development.

### **Participants' role in the study**

The entire process of data collection is expected to take three weeks. You are requested to take part in an interview. Interviews are estimated to last from 30 to 40 minutes.

### **Benefits and risks of participating**

The study is of potential benefit to both curriculum developers, the HRDM unit, and consequently to DTVET. It will provide a model based on the LLL skills curriculum developers perceive to be important for their CPD. The model will give direction to the strategy for CPD, focusing on a problem-solving approach to development of competencies. This on-the-job learning approach addresses the disadvantages of formal qualifications and training. Some of these being: time spent away from work for offsite training, associated costs of off-site training, and education and training with a heavy theoretical content and less real life problem solving. There is no potential risk of harm to participants involved in the study.

### **Procedures for selection of participants**

Participants were selected based on purposive sampling. HR officers are considered to be rich sources of information because you are directly involved in planning education and training strategies for curriculum practitioners. You understand the challenges faced in providing education and training that are relevant to daily problems faced on the job.

### **Guarantee of privacy, confidentiality and voluntary participation**

The opinions gathered from interviews are viewed as strictly confidential, and only the researcher will have access to the information. Participants will be informed that focus interviews will be recorded. Voice recording and note taking will be transcribed by the researcher. During data analysis participants will be coded in such a way that there is a break with participants and data, in order to assure confidentiality and anonymity. All data will be kept safely in an undisclosed location in a lockable cabinet. Data input into the computer will be protected with a password known only to the researcher. No data published in the dissertation will contain any information through which participants may be identified. You will be informed of your right to voluntary participation as well as your right to discontinue with the research without reprisal.

The researcher will seek ethical clearance from the UNISA ethics committee before proceeding with data collection. An agreement on confidentiality and anonymity will be signed by the researcher and participants. All data will be destroyed one year after approval as per the UNISA Research Ethics policy.

### **Summary of Findings and debriefing**

Before submission of the final document, you will be able to review the report to confirm that your responses were accurately conveyed. The outcomes of the study will be reported in a dissertation of limited scope. Once the dissertation is approved by the examining body participants will be invited to a meeting at which time the researcher will share with them the research findings and recommendations. DTVET will be provided with the final copy of the dissertation so that all staff members could have access to it. The outcomes of the study may be used by DTVET, PDD and HRDM to implement a LLL strategy for improving on –the- job learning for continuous professional development.

### **Further information**

UNISA Ethics Committee gives approval for this research. If you would like further information from the supervisor of this research:

Mr. A. Arko-Achemfuor

Department of Adult Basic Education  
and Youth Development

Telephone number: +0124298623

Email: [aachea@unisa.ac.za](mailto:aachea@unisa.ac.za) or

The Chairperson,

Ethics Committee

UNISA

Email: [mcdtc@netactive.co.za](mailto:mcdtc@netactive.co.za)

Researcher:

Ms. J. Rocke-Collymore

Private Bag 0062, Gaborone

Mobile number: +267-71383534

Email: [joanna.collymore7@gmail.com](mailto:joanna.collymore7@gmail.com)

Signature of Researcher: \_\_\_\_\_

#### 8.4 Consent Form for the Research Project

##### Consent Form for the Research Project:

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**Exploring lifelong learning as a strategy for professional TVET curriculum developers in Botswana**

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I, the undersigned, ..... have read the above information relating to the project and declare that I understand it. I agree to take part in the above research project and give my consent freely with the understanding that the project will be conducted as described in the Information Statement, a copy of which I have retained.

Name of Participant: \_\_\_\_\_

Signature of Participant: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Researcher: \_\_\_\_\_

Signature of Researcher: \_\_\_\_\_ Date: \_\_\_\_\_

## 8.5 Request for a Permit to conduct a Research Study

TELEPHONE: 3655469  
TELEX: 2944 THUTO BD  
FAX: 3185167



REPUBLIC OF BOTSWANA

MINISTRY OF EDUCATION  
AND SKILLS DEVELOPMENT  
PRIVATE BAG 005  
GABORONE

REFERENCE : DEPRS 7/1/5/ XII (12)

6<sup>th</sup> June 2014

Dr Joanna Rocke-Collymore  
Plot Number 51398 Kgale View  
Gaborone

Dear Madam/Sir

**RE: REQUEST FOR A PERMIT TO CONDUCT A RESEARCH STUDY**

We would like to acknowledge receipt of your application for research permit to conduct a study. This serves to grant you permission to conduct your study in the sampled areas in Botswana to address the following research objectives/question/topic:

**Exploring Lifelong Learning As A Strategy For Professional TVET Curriculum Developers In Botswana.**

It is of paramount importance to seek **Assent** and **Consent** from the Department of Technical and Vocational Education and Training and its employees at DTJET Head Office that you are going to collect data from. We hope that you will conduct your study as stated in your proposal and that you will adhere to research ethics. Failure to comply with the above stated, will result in immediate termination of the research permit. The validity of the permit is from **6<sup>th</sup> June 2014 to 5<sup>th</sup> June 2015**.

**You are requested to submit a copy of your final report of the study to the Ministry of Education and Skills Development, in the Department of Educational Planning and Research Services, Botswana.**

Thank you.

A handwritten signature in black ink, appearing to be 'E Ranganai', written over a horizontal line.

E Ranganai  
For / Permanent Secretary

## **8.6 Resubmission: Permission to Conduct Research in DTVET**

Joanna Rocke-Collymore  
Plot 51398 Kgale View  
Gaborone,  
Telephone no. 267-3187847 (mobile) 71383534

20 June 2014

Acting Director  
Department of Technical Vocational Education and Training  
Private Bag 0062  
Gaborone

Dear Madam,

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### **RESUBMISSION OF LETTER REQUESTING PERMISSION TO CONDUCT RESEARCH IN THE DEPARTMENT OF TECHNICAL VOCATIONAL EDUCATION AND TRAINING**

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This communication serves as a re-submission of request for Ms Joanna Rocke-Collymore to conduct research in the Department of Technical Vocational Education and Training (DTVET) in fulfillment of the requirements for the Masters (Adult Education), from the College of Education at University of South Africa.

The first request for permission to carry out the research was dated 28 May 2014. Approval was obtained from your office on 2 June 2014. However, the researcher was subsequently informed that the Ministry of Education and Skills Development (MOE&SD) has a new department, Department of Educational Planning and Research (DPRES), and that all research to be conducted within the MOE&SD must get approval from that office.

An application for approval from the DPRES was submitted on 3 June and approval was granted on 6 June 2014. In view of this development I am resubmitting my request to your office. The information statement for the research project is attached.

**Further information**

UNISA Ethics Committee gives approval for this research. If you would like further information from the supervisor of this research:

Mr. A. Arko-Achemfuor

Department of Adult Basic Education  
and Youth Development

Telephone number: +0124298623

Email: [aachea@unisa.ac.za](mailto:aachea@unisa.ac.za) or

The Chairperson,

Ethics Committee

UNISA

Email: [mcdtc@netactive.co.za](mailto:mcdtc@netactive.co.za)

Researcher:

Ms. J. Rocke-Collymore

Private Bag 0062, Gaborone

Mobile number: +267-71383534

Email: [Joanna.collymore7@gmail.com](mailto:Joanna.collymore7@gmail.com)

Signature of Researcher: \_\_\_\_\_

## **8.7 Information Statement for the Research Project**

Joanna Rocke-Collymore  
Plot 51398 Kgale View  
Gaborone,  
Telephone no. 267-3187847 (mobile) 71383534

3 June 2014

Director  
Department of Educational Planning and Research  
Private Bag 005  
Gaborone

ufs: Acting Director, DTVET

Dear Sir,

### **Information Statement for the Research Project:**

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Exploring lifelong learning as a strategy for professional TVET curriculum developers in Botswana

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Permission is being sought from your office for Joanna Rocke-Collymore to carry out research for the above named project in fulfillment of the requirements for the Master's Degree in Education (Adult Education), from the College of Education at University of South Africa.

### **Purpose the research**

The purpose of the research is to explore curriculum developers' views on how lifelong learning could be used as a strategy for their continuous professional development.

### **Participants' role in the study**

Participants are expected to take part in interviews, focus group discussions and completion of one questionnaire. The following is an overview of how participants will take part in the study:

**Interviews:** four team leaders, who are also programme developers within Programme Development and Delivery (PDD), and three officers from Human Resource Development and Management (HRDM) will be interviewed.

**Focus groups:** 24 programme developers (including team leaders) allocated to 4 groups, will take part in focus group discussions

**Questionnaires:** 24 programme developers (including team leaders) will fill in questionnaires.

### **Duration of participation**

The entire process of data collection is expected to take three weeks during the month of June, with your approval. Interviews are estimated to last from 30 to 40 minutes while focus group discussions will last between 60 to 90 minutes. Completion of questionnaires is estimated to take 15 minutes. Questionnaires will be administered after analysis of qualitative data.

### **Benefits and risks of participating**

The study is of potential benefit to both curriculum developers, the HRDM unit and consequently to DTVET. It will provide a model based on the LLL skills curriculum developers perceive to be important for their CPD. The model will give direction to the strategy for CPD, focusing on a problem-solving approach to development of competencies. This on-the-job learning approach addresses the disadvantages of formal qualifications and training. Some of these being: time spent away from work for offsite training, associated costs of off-site training, and education and training with a heavy theoretical emphasis and less real life problem solving. There is no potential risk of harm to participants involved in the study.

### **Procedures for selection of participants**

Participants were selected based on purposive sampling. Curriculum developers are considered to be rich sources of information because they are directly affected by the need to continually acquire new knowledge and skills which requires a new, flexible approach to professional development. They are the appropriate persons to give insight on the LLL skills they require for their CPD. Participants from the HRDM unit have been selected because they are directly involved with training strategies and plans for curriculum developers and therefore can provide insight into the challenges faced with regard to education and training.

### **Guarantee of privacy, confidentiality and voluntary participation**

The opinions of the focus group, interviews and responses from questionnaires are viewed as strictly confidential, and only the researcher will have access to the information. Participants will be informed that focus group discussions and interviews will be recorded. Voice recording and note taking will be transcribed by the researcher. Participants will be coded in such a way that there is a break with participants and data, in order to assure confidentiality and anonymity. All data will be kept safely in an undisclosed location in a lockable cabinet. Data input into the computer will be protected with a password known only to the researcher. No data published in the dissertation will contain any information through which participants may be identified. Participants will be informed of their right to voluntary participation as well as their right to discontinue with the research without reprisal.

The researcher will seek ethical clearance from the UNISA ethics committee before proceeding with data collection. An agreement on confidentiality and anonymity will be signed by the researcher and participants. All data will be destroyed one year after approval as per the UNISA Research Ethics policy.

### **Summary of Findings and debriefing**

Before submission of the final document, participants will be able to review the report to confirm that their responses were accurately conveyed. The outcomes of the study will be reported in a dissertation of limited scope. Once the dissertation is approved by the examining body, participants will be invited to a meeting at which time the researcher will share with them the research findings and

recommendations. DTVET will be provided with the final copy of the dissertation so that all staff members could have access to it. The report will also be disseminated to five institutions identified in the MOE&SD Guidelines for Research. The outcomes of the study may be used by DTVET, PDD and HRDM to implement a LLL strategy for improving on –the- job learning for continuous professional development.

### **Further information**

UNISA Ethics Committee gives approval for this research. If you would like further information from the supervisor of this research:

Mr. A. Arko-Achemfuor

Department of Adult Basic Education  
and Youth Development

Telephone number: +0124298623

Email: [aachea@unisa.ac.za](mailto:aachea@unisa.ac.za) or

The Chairperson,

Ethics Committee

UNISA

Email: [mcdtc@netactive.co.za](mailto:mcdtc@netactive.co.za)

Researcher:

Ms. J. Rocke-Collymore

Private Bag 0062, Gaborone

Mobile number: +267-71383534

Email: [Joanna.collymore7@gmail.com](mailto:Joanna.collymore7@gmail.com)

Signature of Researcher: \_\_\_\_\_