

Comparing vocational education in India, South Africa and United Arab Emirates to develop guidelines for South Africa

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DECLARATION

I, Artwell Marimo, solemnly declare that this dissertation titled 'Comparing Vocational Education in India, South Africa and the United Arab Emirates to Develop Guidelines for South Africa' is original and the result of my own work.

This dissertation has never on any previous occasion been presented in part or whole to any institution or board for the award of any degree. I further declare that all information used and quoted has been duly acknowledged by means of complete reference.

Signature:



Date: 22 November 2019

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ABSTRACT

Vocational education is specific education, which has the main purpose of preparing one for employment in a recognised occupation. Since education is considered the key to effective development strategies, vocational education must be the master key that can alleviate poverty, promote peace, conserve the environment, improve the quality of life for all and help achieve sustainable development. This dissertation is premised on examining vocational education at post-school level in India, South Africa and the United Arab Emirates with a view to developing guidelines for vocational education in South Africa. The study sought to explore positive transferable characteristics and features of vocational education programmes in each of the countries, which could be adopted by similar institutions in South Africa.

The need to provide competencies necessary for employment, economic, technological and national development has renewed the demand for improvement and reform in vocational education systems to make them adaptable to market conditions. The study worked within a qualitative research paradigm to explore, analyse and compare key vocational education features in India, South Africa and the United Arab Emirates. Document analysis was employed as a research tool for data collection to evaluate vocational education trends, such as funding mechanisms, governance, curriculum and stakeholder participation in the countries under study. Similarities and differences in vocational education policies were also identified in India, South Africa and the United Arab Emirates. The study revealed that vocational education policies and philosophy in all the countries covered by the study were similar, but differed in implementation. The study discloses that vocational education systems in some countries have failed to provide the much-needed competencies required by the job market. A need has been identified for South Africa to investigate possible strategies for leading curriculum change at post-high school level. The findings of the study indicated that a vocational education college curriculum in the South African college reform was imminent. Such a reform has the potential of contributing

to the improvement of employment and productivity in various ways. The findings also emphasised the crucial need for managerial strategies to prepare for current and future vocational education curriculum challenges. The study has the potential of providing insight for researchers and policymakers, particularly in South Africa, regarding the policies, experiences and implementation of vocational education in other countries, which, in turn, can be adopted as a basis for ongoing vocational education reforms. Gaps, silences and positive aspects of the analysed key features were revealed for improvement and consolidation to meet international requirements. Vocational education practitioners reflected that products of vocational education institutions lacked the skills, knowledge and abilities required by employers. Limited funding, inexperienced staff, minimum links with the industry and a poor public perception of vocational education are some of the challenges seen to be negatively affecting vocational education.

Key terms: Vocational education, competency, technical education, recognition of prior learning and training.

LIST OF ABBREVIATIONS AND ACRONYMS

ACTVET	Abu Dhabi Centre for Technical and Vocational Education and Training
ADVETI	Abu Dhabi Vocational Education and Training Institute
ANC	African National Congress
CBT	Competency-Based Training
CEDEFOP	European Centre for the Development of Vocational Training
COTT	Central Organisation of Technical Training
DGET	Director General of Employment and Training
DHET-SA	Department of Higher Education and Training - South Africa
DOE	Department of Education
ETDP SETA	Education, Training and Development Practices Sector Education and Training Authority
HRDC	Human Resource Development Council
ILO	International Labour Organisation
ITI	Industrial Training Institute
MHRD	Ministry of Human Resource Development
MHESR	Ministry of Higher Education and Scientific Research

MLE	Ministry of Labour and Employment
NCV	National Certificate Vocational
NIOS	National Institute of Open Schooling
NQF	National Qualifications Framework
OECD	Organisation for Economic Cooperation and Development
QA	Quality Assurance
QCTO	Quality Council for Trades
RPL	Recognition of Prior Learning
SAQA	South African Qualifications Authority
SETA	Sector Education and Training Authority
TVET	Technical and Vocational Education and Training
UAE	United Arab Emirates
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNEVOC	International Centre for Technical and Vocational Education and Training
VEDC	Vocational Education Development Centre
VE	Vocational Education
VET	Vocational Education and Training

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CHAPTER 1**INTRODUCTION****1.1 Introduction**

Quality Technical Vocational Education and Training (TVET) is widely recognised as having an important role to play in solving youth unemployment. Vocational Education (VE) is linked to the preparation of youth employment through the acquisition of the relevant skills, knowledge and values (competencies). This underlines the fact that VE should address matters concerning skills in demand by industry to avoid skills mismatch. The impact of high levels of unemployment, as echoed by Kingdon and Knight (2001), is devastating to society. A state of joblessness results in impoverishment, social exclusion and discrimination. In South Africa (SA), Schussler (2013) highlights that only 60% of households obtain income by means of any kind of work, while 40% of households obtain income by means of government welfare payments. Job creation has been a challenge globally, especially in South Africa. The unemployment rate in South Africa has escalated to 27,1% (Statistics SA, 2019) compared to a global average of 5% in 2019 Organisation for Economic Cooperation and Development (OECD, 2019).

Job creation stands out to be a major global challenge, especially with developing countries. Therefore, governments and all stakeholders need to get on board economic development plans to encourage employment creation. In such circumstances, VE can be a solution through the provision of work-related training, assisting with school-to-work transition.

This study, therefore, aims to draft concrete guidelines for South Africa, drawing on the very extensive series of country studies on VE systems. It is generally accepted that well-structured and well-administrated VE provisioning will superbly contribute to assisting people in preparing

themselves to be successfully employed in this expected new environment. It is also accepted that successful VE should comply with particular characteristics in order to play this supportive role (OECD, 2014). It is, therefore, opportune to place a research focus on the required characteristics and possible contributions of VE regarding enabling people to apply for existing and new employment opportunities. The aim of this chapter is, therefore, to explain the nature and execution plan of the research with such a focus.

The research study focused on VE practices and challenges at post-secondary school level in India, South Africa and the UAE. This introductory chapter provides a general description of the area of study and the theoretical framework of the research. Issues such as background to the study, research problem, research aims and objectives, methodology used, justification and significance of the research are addressed. It also provides a brief outline of the dissertation. In order to retain the originality of the published work by other authors cited in the present study, the term vocational education has been used exchangeably for VET.

1.2 Context of the research

VE is based on the need for people to prepare themselves for occupation and employment, and it is crucial for every country to have a strong VE system. VE refers to a range of learning experiences and programmes that are relevant to the world of work and occur in a variety of training contexts, including provisions by educational institutions and opportunities in the different workplace settings. UNESCO (2012) highlighted that VE plays an indispensable role in boosting a country's economic growth. VE has a meaningful role to play in the development of skills for the workforce.

Through training, people can be supported to ease the school-to-work transition. Through training and education, there is increased workers' productivity and help, providing the market with demand-specific skilled labour.

Due to their higher levels of unskilled labour, developing countries should invest in some VE programmes that might benefit them. Benefits of VE programmes in developing countries are well documented. Hanushek (2011) showed that when accounted for selection bias, the possession of VE qualifications yields higher earnings for individuals than qualifications in general education. Hanushek (2011) further provided cross-country evidence that VE students had a higher probability of employment after graduation when compared to similar students from general education.

Although VE has potential benefits, it has been criticized for a number of practical problems. Atchoarena and Dalluc (2002) summarised these problems in evaluating VE in East Africa as having poor quality, very high costs, training not suited to socio-economic conditions and disregard for the needs of the informal sector and the labour market, thereby leading to high unemployment rates among graduates.

1.3 Clarification of concepts

In considering the meaning and content of VE, several related concepts should first be clarified as keywords, namely competency, training, Recognition of Prior Learning (RPL), education, technical education and VE.

1.3.1 Competency

This is a mixture of ideas, know-how and expertise that will result in a person being declared competent in a particular field. Subsequently, competency comprises required ability, skills, knowledge, attitude or behaviour possessed by employees in order to perform a task effectively and efficiently. Rycus (2000) defines competency as a combination of the skills and knowledge required by workers to perform their jobs effectively and efficiently. Tripathi (2014), on the other hand, posits that competency comprises a collection of skills, knowledge, attitudes and behaviour, which is practice for self-development. In this study, competencies will refer to the integral combination

of knowledge, skills and attitudes or values that are required to effectively function within a vocational area or function of life.

1.3.2 Training

According to Armstrong (2001), training is a systematic acquisition of the knowledge, skills and values required by an individual to perform a given task or responsibility adequately. “Training is characterized as an instructor-led content-based intervention leading to desired changes in behaviour” (Sloman, 2005:2). Experience has shown that successful candidates, who have been placed in a new occupation, need training to execute their new duties effectively. Training refers to trainer-supported interventions, leading to the realisation of the acquisition of agreed-on competencies. Unlike education, training “is aimed at assisting the learners in acquiring the required competencies in a particular role in a particular sphere of life” (Steyn et al., 2002:37).

1.3.3 Recognition of prior learning

It is a procedure that acknowledges expertise gained from previous training or exposure. European Centre for the Development of Vocational Training (CEDEFOP) (2016a) defines RPL as particularly important for the VE sector and a key element in lifelong learning. Department of Higher Education and Training (DHET-SA) (2016) views RPL as an instrument for recognising an individual’s competencies obtained through past life experiences or training.

1.3.4 Education

Education can be viewed as planned activities to assist learners in acquiring the required competencies (knowledge, skills and attitudes/values). In education, the teacher supports the learner to achieve the competencies necessary in life. On one end, education is broadly defined as a more general, less specialised approach enhancing knowledge (Montoya, 2013). According to Steyn (2002), education is planned activities through which the educator assists learners in acquiring the required knowledge, skills and attitudes/values to meet their responsibilities in different aspects of life.

1.3.5 Technical education

Osula (2004) defines technical education as a vocational training programme with the major purpose of supporting the development of capable technicians in different trades. United Nations Education Scientific and Cultural Organisation (UNESCO) (2017) further asserts that technical education is usually understood as science put into application with the use of modern technologies. Technical education assists individuals in acquiring the academic and technical competencies required to prepare for further education (UNESCO, 2017).

1.3.6 Vocational education

According to Gordon (2015), VE involves all forms of learning through practical skills related to occupations. Through VE, learners have an opportunity to acquire relevant competencies for different types of occupations and specific skills to assist them in the workplace. VE allows people to master highly transferable skills as practical skills for a chosen trade.

1.4 The nature of vocational education

1.4.1 Generally accepted characteristics of vocational education

VE occupies a central place in social, economic and education policies throughout the world. According to Barker et al. (2012), the workplace has undergone considerable changes. These changes are a result of modern technology in workplaces and have an effect on what learners have to learn in vocational institutions. The constant state of instability in workplaces, as reported by Guthrie (2004), points out that education systems need to equip workers with transferable skills that can allow workers to move easily between jobs.

Grollman and Rauner (2007) are of the opinion that in most high-income countries, VE provides a significant link to the employment system for the youth. However, the VE sector is unbelievably small in low-income countries. Besides being small, VE in most Sub-Saharan Africa is portrayed by a

significant lack of practical applicability and non-responsiveness to labour market needs, insufficient infrastructure and equipment, and extremely low throughputs (UNESCO, 2015).

Vocational skills have been viewed as less competitive to enter high-income occupations in the field of employment and a second-tier offering. Despite the employment prospects with vocational qualifications, communities still accept the supremacy of professions, such as medicine and accountancy over vocational-oriented jobs (Oketch, 2009). Despite all the efforts to equip vocational graduates with practically directed competencies for the labour market, the graduates have remained jobless (OECD, 2014). Without a doubt, the status quo suggests that the training programmes offered by the majority of institutions for VE fail to sufficiently support the learners to develop the competencies required for employment.

It can be summarised that VE has been designed to support students to meet the demands from lower-level maintenance to the highly technical positions in the world of work, for example, in the engineering industry. The level of unemployment worldwide is a cause for concern and despite the great contributions of VE to economic development, it can be argued that many nations are yet to accord this type of education the attention it deserves.

1.5 Vocational education in India, South Africa and the United Arab Emirates

In order to better understand the nature of VE and the challenges that should be solved by this type of education, it was deemed important to study the provisioning of VE in certain national education systems. It is always important to compare the realisation of VE in different settings in order to learn applicable lessons that can be used to improve VE, particularly national education systems.

1.5.1 Vocational education in India

VE in India is governed by several institutions' functioning under 21 different ministries of the federal government (Singh, 2012). The Government of India (2015) has been entrusted to making broad policies for all the ministries' skills development initiatives, as well as coordinating and streamlining the functioning of different organisations working for skills development. The Ministry of Human Resources Development and the Ministry of Labour and Employment (MoLE) are the key decision-makers for VE in India.

VE in India is offered in formal schools in Standards 11 and 12. Vocational training, on the other hand, is open to students who leave school after completing Standard 10 and includes institution-based training, which falls outside the formal schooling cycle. At the centre of VE in India are publicly funded Industrial Training Institutions (ITIs) and independent training centres that provide all-embracing vocational training (Singh, 2012). Training is imparted in 126 trades (73 Engineering, 48 non-Engineering and five exclusively for the visually impaired). Currently in India, there are 11 964 ITIs, of which 2 284 are public and 9 680 privately owned, Director General of Employment and Training, (Government of India, 2015). The Open Vocational Education programme is administered through the National Institute of Open Schooling (NIOS). The objectives of the Open Vocational Education programme are to meet the needs of skilled human labour, as well as preparing learners for self-reliance and gainful self-employment (NIOS, 2016).

VE programmes have also not been very successful in India. The quality of the VE system in India has been subject to considerable criticism in the past (Pilz & Li, 2016). In a study on learning opportunities, Pilz and Venkatram (2015) found that ITIs were poorly equipped and that potential students had to travel long distances to access them. They also found a shortage of courses geared for the needs of students and the local employment market. Further research into street food vendors by Pilz and Venkatram (2015) also found that formal training provisioning offered by ITIs did not meet the needs of potential trainees.

1.5.2 Vocational education in South Africa

In South Africa, VE is a pivotal reaction to job scarcity and unemployment. VE remains the stimulus for development in South Africa with its large jobless working population and skills scarcity, (Kraak, 2013). Currently, South African VE poses a number of challenges, including a confusing mix of overlapping and competing programmes and qualifications, inadequately developed programmes for adults and post-limited secondary vocational qualifications, (OECD, 2014).

There are several vocational routes at post-secondary school level, namely National Certificate Vocational (NCV), National Accredited Technical Education Diploma (NATED) courses, learnerships and occupational qualifications involving the assessment of different unit competency standards. The less successful students in academic high schools are encouraged to enrol in NCV programmes, even though the programme is still quite demanding academically South African Qualifications Authority (SAQA, 2013). In accordance with the Education, Training and Development Practices Sector Education and Training Authority (ETDP SETA) Report (2012), many have argued that this complex history and fragmentation of competing qualifications has rendered the entire VE sector confusing and, therefore, unpopular.

As South Africa requires a greater number of skilled labour, much emphasis should be channelled towards the skills that the labour market requires. The OECD (2014) further stressed that South Africa experienced challenges to improve the skills and qualifications of its lecturers in the VE system. According to Lolwana (2011), the lack of a link between the industry and the labour market reveals a sector that is not sustainable. In addition, the insufficient funding of institutions and unskilled labour force are some of the major difficulties affecting VE governance (DHET, 2013).

1.5.3 Vocational education in the United Arab Emirates

One important feature of VE in the United Arab Emirates (UAE) is that it “is free to all locals at all levels” (Wilkins, 2002:3). The Ministry of Higher

Education and Scientific Research (MHESR) is tasked with managing the education system, while the Ministry of Labour and Social Affairs oversees the VE sector. In pursuit of diversifying its economy and enhancing the skills level of its nationals, the UAE has made great strides in VE by opening several specialised institutions and practical learning centres.

Consequently, VE in the UAE experiences great interest from its decision- and policymakers. The Institute of Applied Technology in 2005, the Vocational Education Development Centre (VEDC) in 2006, as well as Secondary Technical Schools (STS) in 2010 and continuous education in 2014 under Abu Dhabi Vocational Education and Training Institute (ADVETI) with its various institutions have been established all over the country. This is in addition to the formation of the Abu Dhabi Centre for Technical and Vocational Education and Training (ACTVET) in 2010, which is a body that supervises a number of entities that provide accredited educational, technical and vocational training programmes, (ADVETI, 2014).

Centres, such as the VEDC, provide opportunities to Emirati men between the ages of 14 and 23 who have completed a minimum of Grade 6 and with an interest in vocational studies, rather than mainstream general academic education. VE programmes are industry based and all Emirati graduates are assisted in finding work at the end of the programme. The policy of Emiratisation, as described by the UAE Government (2016), is a major reform platform for VE in the UAE and aims at bringing more locals into the workforce.

1.5.4 Vocational education in other countries

VE in Brazil is provided by a great variety of agencies that cater for the formal and informal sectors of the economy and for employed or unemployed workers in big and small companies. This VE market, constituted by public and private institutions, is frequently informal in terms of certification or educational requisites, does not form part of formal education and can be disseminated by television, videos, magazines and on the Internet (World Bank, 2003). The dual VE in Germany is an integral part of the school system

and according to Sirkin (2013), half of all school children are involved in VE. Sirkin (2013) further asserts that the dual system is centred on real-life working environments and is outlined by collaboration between small and medium-sized companies.

1.6 Research questions

Based on the above context of VE, the research aimed at answering the following research question: What lessons can be learned regarding VE in India, the UAE and South Africa to develop guidelines for the provision of VE in SA?

The central question was addressed by answering the following sub-questions:

- What are the internationally accepted features of VE?
- What is the nature of VE in India, South Africa and the UAE regarding aims, curricula, qualifications, institutions, levels, successes and failures?
- What positive and negative lessons can be learnt from the VE in the three countries?
- How can these lessons inform and be implemented in a practical and sustainable manner taking the unique challenges of VE into consideration?

1.7 Aims of the study

To answer the research questions, the study aimed at identifying the lessons regarding VE in India, South Africa and the UAE in-order to develop guidelines for VE in South Africa.

To answer the sub-questions and to reach the above stated research aim, the study particularly focused on meeting the following research objectives:

- To describe the internationally accepted features of VE.
- To identify and describe VE practices in the three countries regarding the aims, curricula, qualifications, institutions and levels in India, the UAE and South Africa.

- To compare VE systems in the different countries in order to identify the lessons that can be learned from VE in the three countries.
- To discuss how the identified lessons can be adopted as guidelines for implementation in the South African VE sector.

1.8 Research design and methodology

1.8.1 Research design

This study adopted a qualitative research method as an appropriate research strategy. The qualitative research involves the use of qualitative data, such as documents and observation, to understand and explain a social phenomenon. Qualitative research focuses on words rather than numbers and according to Walia (2015), this type of research observes the world in its natural setting, interpreting situations to understand the meaning that people make from day-to-day life. Qualitative research methods typically include interviews and observations, but may also include case studies, historical and document analysis. According to Creswell (2009), qualitative research is an umbrella term used to refer to the theoretical perspective designs as narrative, Grounded Theory, case study and content analysis.

The rationale for using the qualitative research method was to explore VE and obtain a broad overview of the three countries under study. Qualitative research method produces findings not arrived at by statistical procedures or other means of quantification (Flick, 2014). Qualitative research method allows for research frameworks to be based on available data. Creswell (2014) further alluded that the qualitative research method is good at simplifying and managing data without destroying complexity and content. However, it is important to consider the strengths and weaknesses of qualitative research (Silverman, 2010).

1.8.1.1 Strengths of qualitative research

According to Yauch et al. (2014), qualitative research has the following strengths:

- Qualitative research is good at simplifying data without destroying complexity and content, as statistics are not used in it.
- Qualitative research can help in proposing relations and connections.
- Qualitative research gives researchers access to data on difficult issues, such as domestic data or crime.

1.8.1.2 Weaknesses of qualitative research

Qualitative research also has major weaknesses, which according to Bowen (2006) includes the following:

- Owing to the subjective nature of qualitative data and its origin, it is difficult to apply the conventional standards of reliability and validity.
- Completion of the research often depends on a single individual.
- Results can often not be generalised as it is unclear whom they represent.
- Personal knowledge and experience influence conclusions.

1.8.2 Research approach

The gathering of data can be accomplished through a primary or secondary source (Mesly, 2015). The research approach is an idea and procedure that is made up of stages of wide beliefs to methods of data collection, analysis and interpretation. The research approach is constructed on the nature of the research problem. For the purpose of this study, primary and secondary data sources were used. It was important to integrate primary and secondary data to test researcher bias and gather enough information to fully explore the research study.

1.8.3 Primary data

According to Afonja (2001), primary data is collected for a specific research problem at hand, using procedures that best fit the research problem. The researcher originates primary data for the first time. Primary data sources include surveys, observations, case studies, experiments, questionnaires or interviews (Douglas, 2015). On every occasion that primary data is collected,

new data is added to the existing store of social knowledge. Increasingly, the material created by other researchers is made available for re-use by the general research community and is then called secondary data (Afonja, 2001).

1.8.3.1 Advantages of primary data

The advantages of primary data cannot be neglected and according to Bryman and Bell (2007), these include the following:

- Better accuracy: Primary data is much more accurate because it is directly collected from a given population. The data is gathered first-hand, following careful using carefully chosen procedures.
- High level of control: The researcher can easily control the research design. In addition, the researcher has a higher control over how the information is gathered.
- Up-to-date information: The primary researcher is a great source of the latest up-to-date information as he/she collects it directly from the field in real time.
- Trustworthy: Primary data has greater validity and credibility than secondary data.
- Primary data resolves specific research issues: The researcher collects the information he/she wants to know about and illustrates it in a way that benefits the specific situation at hand.

1.8.3.2 Disadvantages of primary data

According to Nahum-Shani et al. (2010), some of the disadvantages of primary data are as follows:

- High costs: It could be very expensive to obtain primary data, because the researcher must start from the beginning of a study and follow the entire study, funding participants, organising materials and running the study.
- Time consuming: It takes a lot of time to conduct research from the beginning to the end. It often takes much longer than it takes to collect secondary data.

- Primary data has lots of limits: Primary data is limited to the specific time, place or number of participants.
- Not immediately available and accessible: Primary data requires the researcher to work in the field to obtain the necessary information.

1.8.4 Secondary data

Creswell (2009) defines secondary data as data that has been collected for another purpose, but has relevance for a new research need. In addition, someone other than the researcher collects the data. Secondary data sources provide valuable interpretations and analysis based on primary sources (Smith, 2008). Secondary data may explain primary sources in detail and often uses them to support a specific dissertation or point of view, such as previous research, government reports, letters, official statistics and dissertations (Creswell, 2009).

1.8.4.1 Advantages of secondary data

- Ease of access: Secondary data sources are very easy to access. The Internet world has changed how secondary research exists. Nowadays, information is readily available at the click of a button on a computer (Smith et al., 2011).
- Low cost: The majority of secondary sources are free for use or available at very low costs. In comparison with primary research where one must design and conduct an entire primary study, secondary research allows one to gather data without having to put money on the table (Smith, 2008).
- Secondary research is time saving, meaning that one can perform secondary research in no time. Sometimes it is a matter of a few Google searches to find credible data sources (Doolan & Froelicher, 2009).
- Secondary research allows for the generation of new insights and understanding from previous analysis. According to Smith (2008),

realising old data can bring unexpected new understandings and points of view or even new relevant conclusions.

- Secondary research allows one to perform a longitudinal analysis, which means that the studies have been performed over a long period of time. This can help to determine different trends. In addition, one can find secondary data from many years back up to a couple of hours ago, allowing one to compare data over time (Heaton, 2008).

1.8.4.2 Disadvantages of secondary data

Boslaugh (2007) identified some of the following disadvantages of secondary research:

- Secondary data is not that specific to the researcher's needs as it was collected in the past for another reason, which is why secondary data might be unreliable.
- Potentially biased: As someone other than the researcher collects the secondary data, typically the data can be biased in favour of the person who gathered it.
- Secondary data has a lack of control over data quality. In comparison with primary research methods, which are largely controlled by the researcher, secondary data might lack in quality.
- Secondary data has been collected in the past, which means that it might be out-dated. Specific data that the researcher would like to have may not have been collected in the years the researcher would have chosen or a specific population that is the focus of interest.

1.8.5 Data collection

Qualitative data collection methods play an important role in impact evaluation by providing information useful to understanding the processes behind observed results. In this study, a document analysis review method was

employed in the data collection. Document analysis, as reported by Douglas (2015), can be primary or secondary data, depending on the qualitative content analysis being conducted. In this study, document analysis as secondary data focused on content generated by another qualitative method and played a supportive analytical role. Separately, document analysis as primary data, focused on content generated by an existing, naturally occurring repository of information, such as newspapers, historical documents or blogs.

Document analysis is a way of collecting data by reviewing existing documents. Bowen (2009) defines document analysis as a form of qualitative research in which the researcher interprets documents to give voice and meaning to a topic. Documents may be in hard copy or electronic and may include reports, programme logs, performance ratings, funding proposals, newsletters and journals. According to O’Leary (2014), there are three primary types of documents, namely public records (official, mission statements, annual reports, policy manuals, strategic plans and syllabi), personal documents (journals and newspapers) and physical evidence (flyers, handbooks and training manuals). According to Rapley (2007), document analysis requires that data should contribute to the understanding of empirical information.

The rationale behind using document analysis is the invaluable part it plays in triangulation, the combination of methodologies in a study of the same phenomenon. According to Bowen (2009), the purpose of triangulation is to provide a confluence of evidence that breeds credibility.

1.8.6 Specific uses of documents

Documents can serve a variety of purposes as part of a research undertaking. Rapley (2007) highlighted some of the purposes as below:

- Documents can provide data on the context in which research participants operate, bearing witness to past events and providing background information, as well as historical insight.

- Information contained in documents can suggest some questions that need to be asked and situations that need to be observed as part of the research.
- Documents provide a means of tracking change and developments. If various drafts of a document are accessible, the researcher can compare them to identify changes.
- Documents can be analysed to verify findings or confirm evidence from other sources.

The importance of the use of documents is that it provides the essential context in order to open new questions and new data, as well as verifying data obtained from other sources. Moreover, the use of documents may be the most effective means of gathering data about past events and experiences or to test participants' memories.

1.8.6.1 Advantages of document analysis

There are many reasons why researchers choose to use document analysis. According to Bowen (2009), document analysis is often used because of the many advantages it can support and strengthen research. Some advantages are as follows:

- **Relatively inexpensive:** Document analysis is often the primary choice, because it can be more affordable than other research methods.
- **Efficient:** Document analysis is less time consuming and, therefore, more efficient than other research methods. It requires data selection rather than data collection.
- **Many documents are readily available in the public domain, especially since the advent of the Internet.** Documents are obtainable without the authors' permission, which simplifies the collection of data.
- **Document analysis has great stability.** The researcher's presence does not alter what is being studied, which makes documents suitable for repeated reviews.

- Document analysis provides broad coverage of many events and settings over a long period of time.

1.8.6.2 Disadvantages of document analysis

- One document cannot provide all the necessary information required to answer a research question. Documents are not produced for the purpose of research and will, therefore, not provide detailed answers to the research questions (Bowen, 2009).
- Documents have a low retrievability level. Documentation is sometimes irretrievable. As Yin (1994) has noted, access to documents may be blocked deliberately.
- Documents are prone to biased selectivity. An incomplete collection of data suggests biased selectivity (Bowen, 2009; Yin, 1994)

1.9 The role of the researcher

In qualitative research studies, the researcher is considered as an instrument of data collection (Denzin & Lincoln, 2003). The researcher's role is critical, as he/she collects data and implements analysis (Creswell, 2009). In this study, the researcher observed as a participant as he was the primary instrument of data collection and analysis. However, it is essential to recognise that there was the potential for bias on the researcher's part, which could impact the outcome of the study. This means that data are mediated through the human instrument, rather than by means of inventories, questionnaires or machines.

1.10 Contributions of the study

This study proposes that one of the reasons for the existence of a mismatch between the type and quality of competence that VE institutions are producing and the competence needs of the industry is the poor methods of carrying out training gap analyses. Critics argue that an inadequate training and development needs analysis could result in incorrect and ineffectual training programmes, which could either have a detrimental impact or no impact at all (Brown, 2002; Stone, 2010).

This study will add value to the field of VE in South Africa.

- First, insight into VE globally will contribute to the knowledge of this phenomenon. It will help identify gaps in the VE system of South Africa.
- Secondly, South Africa will be able to develop guidelines on how to run VE based on findings from other countries.
- Thirdly, generating knowledge of VE may create a model framework to facilitate the success of VE in South Africa.
- Lastly, the study is expected to produce suggestions for sustainable policies regarding VE in South Africa. The insight to be gained from an in-depth qualitative study should assist in developing strategies and policies for South African VE.

1.11 Chapter layout

The research study comprises six chapters. The first chapter provides a description of VE as a practice, its historical perspective and the present scenario of the education system in India, South Africa and the UAE. Chapter 2 centres on understanding the nature of VE and describing its key features and challenges. Key features include VE aims and objectives; governance, structure and provisioning; curricula and funding mechanisms. The third chapter explains current VE practices in India and UAE with special focus on the key features. Chapter 4 portrays the present system of VE in South Africa. The fifth chapter showcases findings along with the comparisons between VE practices in India, South Africa and the UAE. The final chapter provides a summary, recommendations and the conclusion to the study.

1.12 Summary

The purpose of this chapter was to present a rationale for the study and provide an overview and organisation of the dissertation. In summary, this chapter systematically defined the concept of VE and gave a detailed account of VE practices and challenges in India, South Africa and the UAE. Reference

was also made to a few other developed and non-developed countries to obtain different levels of VE operation in the respective countries.

The next chapter is devoted to reviewing the literature on the nature of VE and describing the key features of VE. The key features of VE will focus on the aims of VE, governance, its provision, curriculum and challenges. The aim of Chapter 2 is to establish gaps that might exist in VE and to construe the interrelationship between key features of VE and their roles.

CHAPTER 2**LITERATURE REVIEW****2.1 The nature of vocational education**

VE is seen as specific education meant to promote an individual's expertise in respect of his/her future profession. In this chapter, a conceptual framework for VE will be articulated. As there are different views about the nature of VE, this conceptual framework will highlight the scope, key features and general aims of VE, its governance and provisioning, as well as challenges affecting the sector across nations. Certain aspects, such as defining VE, its historical development and key features will also be presented.

VE is designed to assist individuals in preparing themselves for a peculiar trade, therefore, it is associated to the productivity and competitiveness of a nation (UNESCO, 2015). In European countries, VE is shaped widely by different cultural and social class values of a vocational training status in society. VE in the United States of America is education and training, which provides the necessary competencies for employment (UNESCO, 2015). Therefore, the implementation of VE varies from country to country.

2.2 Defining the concept of vocational education

VE involves learning various technologies and gaining hands-on competencies. Furthermore, Marope et al. (2015) define VE as career-focused education, which can usually be attained at technical or polytechnic colleges. VE is a key element of lifelong learning systems supporting people to acquire those competencies required by the labour market. According to UNESCO (2015), VE is defined as educational programmes meant to support learners to acquire the relevant skills, knowledge and values required by a specific profession. Similarly, Loo (2018) defines VE as programme pathways to occupational work. These programmes are typified by a hands-on approach, which has a direct theory-practice linkage, such as typical apprenticeships and dual-system education.

Upon graduation from a VE institution, a learner is awarded with a vocational qualification, which is occupationally related, market-relevant and accepted by the relevant national authorities. Marope et al. (2015) describe VE as a key channel for equal opportunities with lifelong learning opportunities. In VE programmes, teachers and instructors develop real-world competency-based assessments that afford their students an opportunity to acquire the appropriate knowledge and competencies to succeed in the occupation being studied. According to UNESCO (2017), VE uses many forms of education, including formal and non-formal learning and is said to be important for social equity and inclusive, as well as for the sustainability of development.

Furthermore, UNESCO (2015) concurs with Marope et al. (2015) that VE contributes to sustainable development through empowering individuals with competencies relevant for workplaces. According to UNESCO (2017), VE is otherwise known as career education, which is education based on learning and employment. By developing competencies that are specific to a trade or job role, one can improve employment prospects. VE has undergone various stages of development since the days of industrial revolution in Britain to the 21st century.

2.3 Historical development of vocational education

The history of VE is as old as the study of the human race (Maclean & Wilson, 2009). VE originated when people learnt through discovery and at a later stage, it was through the imitation of skills. It started where people acquired vital expertise through an unapproved means and advanced when they started to acquire education in its informal form. Historically, work was the true site of VE. In this regard, for example, ancient communities relied on hunting and gathering using sticks and stones. During this period, the acquisition of skills merely concerned copying and knowledge flowed from one generation to the other (Evans, 1971).

Historically, VE was not initially a part of public education. In the early 18th century, public schools were for the elite. Scholars such as Dewey (1917) had

conflicting thoughts with regards to early VE. Dewey (1917), for example, believed that early VE was education for democracy, because children were trained to enrich the system, not themselves.

Modern VE developed during the industrial revolution in the 18th century to provide the skilled human power required for the newly established factories at that time. VE was regarded as an opportunity for the people leaving peasantry life (Delors in Aleka, 2008). In the 19th century, because of mass production, there was a shortage of industrial workers and craftsmen, and the need for competent workers arose. Production shifted from the small shops to great manufacturing companies. According to Maris (1994), the large manufacturing industries embarked on training their workforce in vocational skills. The huge production systems forced the big factories to establish vocational schools in or near their own production plants with the aim of training their own future workers before they assumed their production duties.

In the 20th century, there was growth and expansion in technical schools, and post-school training was arranged to have a strong link with industries. This was the period when there was great pressure to expand VE to satisfy the needs of the labour market. It was also a period when industrialised countries understood that qualified manpower had more decisive importance than any other of the production factors (Maris, 1994).

In contemporary society, the dynamism of technology and worldwide globalisation has put VE at the top of the development agenda of many countries to produce well-trained, qualified manpower in the shortest possible period of time (Aleka, 2008). Learners have been training for specific vocations for thousands of years, but not in the way we think of VE today. Women learned domestic skills from their mothers and young men trained for specific trades under professionals. Young apprentices, for example, learnt to shape swords by shadowing the town's blacksmith. This type of hands-on, skills-based learning has lasted throughout human history.

According to a report of the National Research Centre for Career and Technical Education (2013), early VE was driven by a philosophy of fitting people to their probable destinies. The report further highlighted that children from poor families were tracked off into becoming the worker bees. Other children were sent to university to become academics.

Throughout history, VE has given students hands-on experience to prepare them for employment. Regardless of its true origin, today's VE is a well-developed schooling system, which balances class time and work experience with curriculum and entrepreneurship training (Billet, 2011).

Historically, almost all VE took place in the classroom and/or on-site, with students learning trade/vocational skills and trade/vocational theory. In the past, workers were assured of a job for life with full-time employment, clear occupational roles and well-established career paths (Maclean et al., 2009).

However, in recent years this is no longer the case, online VE has grown in popularity, making learning various trade/vocational skills and soft skills easier than ever for students, even for those who may live far away from a traditional VE institution. The knowledge-dependent global economy is characterised by rapid changes in technology and related modes of work (McGrath, 2011). Workers often find themselves redundant and out of work.

The World Bank Report (2019) on the future of work suggested that flexibility between general education and VE, particularly in higher education, was imperative to enable workers to compete in changing labour markets where technology plays an increasingly important role. The advent of globalisation has demanded more specialised labour markets, higher skill levels and diversified VE. Globalisation is a set of processes to integrate the world into one economic space through increased international trade (Stromquist & Monkman, 2000).

Globalisation is one of the most important factors causing the fall in the demand for unskilled labour and the rise in wage inequalities between skilled and unskilled labour. VE is, therefore, considered to be the most effective instrument of meeting globalisation demands. Te Velde (2004) further suggests that VET has a strong relationship with globalisation in the sense that the quantity and quality of existing education and training in a country helps to determine the extent to which a country is likely to be involved in globalisation.

Although the popularity of VE is increasingly growing, misconceptions about it always remain. There is still an unfortunate tendency to see VE as having less relevancy and gravitas than 'general' higher education, to question its capacity to provide for the development of required competencies. Adding to this challenge is the relatively low status of VE, particularly when it is compared to other more academically oriented programmes leading to higher education. UNESCO (2015b: 3) called on member states to "raise the public profile and attractiveness of VE among learners, families and all other stakeholders, and inform them of the possibilities for progression, work, lifelong learning and self-fulfilment".

2.4 Key features of vocational education

VE is characterised by key features, which include its aims, objectives and benefits, its governance and funding, the structure and provision to include qualifications and assessments, VE curriculum and the challenges to VE in general.

2.4.1 Aims of vocational education

VE serves multiple purposes. A key purpose is to provide the youth with ample opportunities to prepare themselves for work. This takes the form of learning and developing work-related skills and mastering underlying knowledge and scientific principles and related required values. To support self-employment, VE curricula often include entrepreneurship training (Billet, 2011).

Kalimullin and Masalimovo (2016) concur with Kostikis (2007) that VE is aimed at the development of a specialist ready for lifelong learning. It is further emphasised that VE supports the alleviation of unemployment as it assists in increasing the required competencies in meeting the requirements for employment. VE responds to the needs of the economy and should assist in the personal development of learners and support them to become positive citizens (Kotsikis, 2007). The objective of VE is to support learners to improve their application-oriented talents that include the related technical theoretical knowledge combined with hands-on capacity that is required in the actual working capacity.

According to Billet (2011) the aims of VE are as follows:

- To enhance individuals' employability (wage/self-employment) and to ensure that they are able to adapt to changing technologies and labour market demands;
- To improve the productivity and living standards of people;
- To strengthen competitiveness of the country through skilled labour; and
- To feeding the economy with qualified staff competitive in local and international labour markets, ensuring a match between the fast-changing labour market and the VE system.

2.4.2 Objectives and purpose of vocational education

The primary objective and purpose of a VE programme are to provide various training opportunities for the present and future labour force in order for them to adapt to the requirements of the labour market. King and Palmer (2010) state that VE helps to promote and support the development of a country, facilitate transition from school to work for millions of school-leavers and foster the equality of opportunity and social cohesion.

Louks in Aleka (2008) states the following objectives and purposes of VE:

- To create opportunities for all to acquire required competencies throughout life, especially for the youth, women and disadvantaged groups;
- To encourage a positive attitude towards manual work;
- To reduce excess demand for higher education;
- To ensure professional development of minority groups and create employment opportunities for them;
- To assist in the development of a high-quality skilled workforce relevant to current and emerging employment market needs;
- To facilitate the schooling of low achievers; and
- To support lifelong learning by up-skilling people.

2.4.3 Governance

Governance generally refers to activities of guiding based on some kind of authority and policies that organise the relevant organisation to enable its sustainable and attainable functioning. Governance comprises of rules, processes and behaviour related to procedural, structural, functional and instrumental aspects of governing. The interaction among institutions, how power is exercised and decisions are taken, and how stakeholders, including citizens, have their say, all constitute governance (Oliver, 2010).

Modern definitions of governance are more inclusive, not only including government, but also including other interest groups and taking into account all relevant factors that will influence the institution in terms of effective governance. Michalski et al. (2001) define governance as the realisation of authority. According to CEDEFOP (2011a), governance in VE is meant to encourage openness in decision making between various players in the industry. Governance includes policy areas of financing (who pays for services and how), partnerships (who is doing what and how) and assuring quality (ensuring the service is good). According to international experience, an integrated governance system is a key strategic policy area for effectively modernising VE.

In VE, irrespective of the country, there are three main agents in the governance structure, namely governments (national, state, local/regional); clients (employers, individuals and communities) and the training providers, assessors and certificating bodies (government or Non-Governmental Organisations (NGO) (Pierre & Peter, 2005).

2.4.4 Financing of vocational education

According to the UNESCO Institute for Statistics (2016), models for the financing of VE services can vary widely. In theory, it is potentially useful to envision three main types: First, a completely centralised model where the state finances and provides VE; secondly, a completely market-based model, where state intervention is minimal and individuals and firms establish the supply and demand for formal and non-formal VE in the market place; and thirdly, a mixed model where the State and the private sector are involved in the financing and supply of VE. At its most fundamental level, these differences in models are based on what is the perceived role of the State in the provision of VE, namely whether the State should increase supply or create demand, or both or neither.

Developing VE financing policies is necessarily a multidimensional exercise, reflecting the varied nature of the educational ambits involved formal and non-formal, as well as the multiple actors who interact in the VE market. To appreciate this complexity, it is useful to separate the initial financing for VE (who pays) from final financing (who spends) (Johnson, 2009). Initial financing of the formal education system and in some countries the public providers of non-formal VE by the public sector is largely the domain of Ministries of Education, who receive their resources through the regular budgetary process, which in turn determines the allocation of revenues mobilised from general taxes and other resources.

In the private sector, initial financing in households, firms and NGOs is closely associated with the income generation capabilities of each actor. Households generate their resources through wage and salary work or through self-

employment. Firms provide initial financing for VE, inside and outside the enterprise, out of their own revenues. NGOs also generate resources through their operations. Resources for VE can also be mobilised from the rest of the world through development aid (Heynemann & Lee, 2016). A financing grid of this nature is illustrated in Figure 2.1 below.

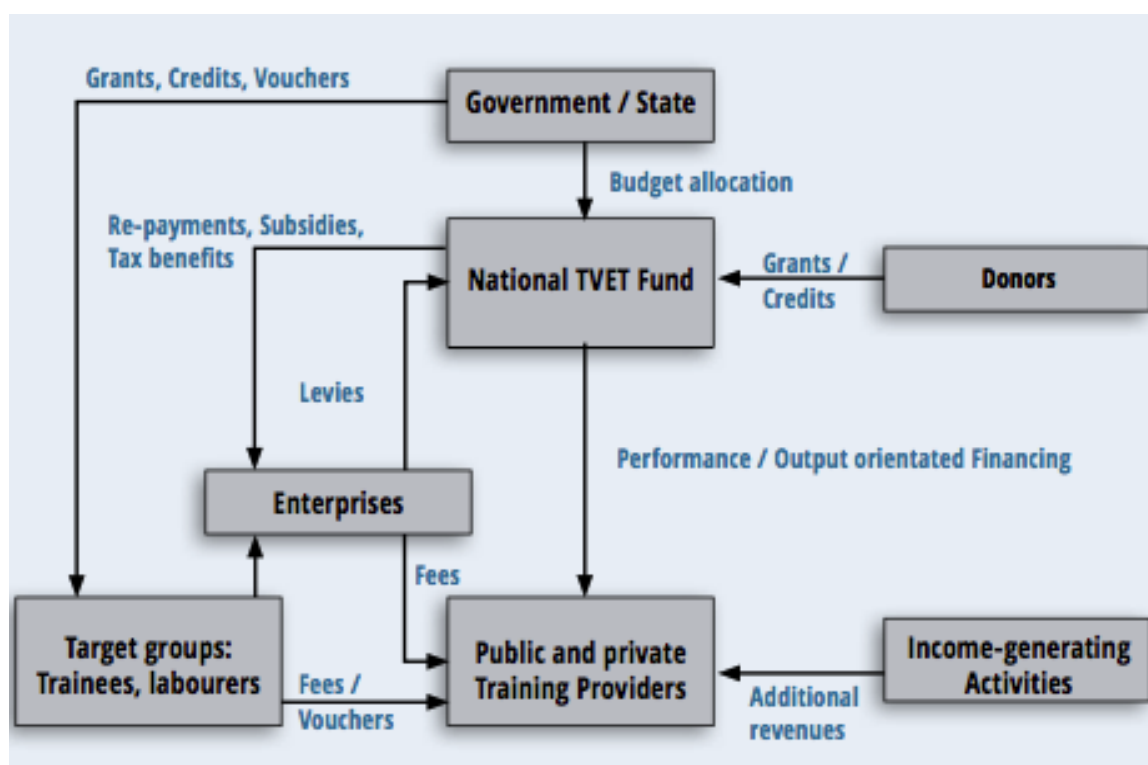


FIGURE 2.1-Advanced VE Financing Model (Source: GIZ Background Paper Regional TVET 2012)

Experiences from countries with well-functioning VE systems indicate that advanced collaborative financing schemes require some basic framework conditions, which are indispensable for reconciling the networked complexity of planning processes and other governance areas with the need for efficiency and accountability (Dunbar, 2013). Subsidies, loans, funds and training voucher systems can be highly effective means for financing, respectively fine-tuning demand orientation of VE and spurring its equality.

2.4.5 Provision of vocational education

VE refers to education, training and skills development relating to a wide range of occupational fields typical to the areas of production, services and livelihoods. As part of lifelong learning, VE can take place at secondary, post-secondary and tertiary levels and can interact with the apprenticeship system as work-based learning. At the post-secondary school level, highly specialised trade technical schools, community colleges, universities, polytechnics and workplaces, often provide VE. VE takes on a rather different form in each case. In the apprenticeship system, VE programmes complement the development of workplace skills, concentrating on relevant theory and often encompassing continuing general education not necessarily related to the apprenticeship programme (OECD, 2000).

Effective VE should translate industry demand for competencies into the educational/teaching programmes and activities of providers, trainers and students. VE is usually industry and demand driven (outcomes-based) education and training programme based on well-defined industry generated standards (occupational standards). These industry standards represent the basis upon which the curriculum, assessment and learning materials are designed and developed. VE focuses on what the learners are expected to be able to do in the workplace compared to merely having theoretical knowledge. VE represents training programmes, which ensures that learners acquire the necessary competencies to be successful in the working environment.

As previously indicated, curriculum development should be based on occupational standards. This will minimise the problem of the mismatching of acquired competencies with the requirements of a particular occupational field, which has been identified by the industry as a major cause of unemployment. Therefore, after institutions have consulted with the industry and businesses, course material is developed for all the courses of the respective programmes according to valid and quality occupational standards that were developed.

2.4.6 Stakeholders involved in vocational education

A range of stakeholders, who contribute to competency building, occupies the landscape of VE. Stakeholders in VE include the government, institutions, teachers (lecturers and instructors), donors, NGOs and multi- and bilateral agencies (Alam et al., 2010). The crosscutting nature of VE means that various government ministries are involved either directly in providing vocational training or indirectly by partnering with NGOs and other social partners. The involvement of social partners (employers, sector bodies, trade unions and student unions) is considered crucial to ensuring the labour-market relevance of VE programmes. Industries are the only place for students to learn competencies or execute competencies learnt at school (Gyabaah, 2005). Governments, through line ministries and government bodies, can routinely become involved in VE. According to Alam and Hoque (2010), government has a very important role to play in ensuring the proper implementation of VE programmes.

Marope et al. (2015) argue that social partners' participation in VE policy and governance is crucial. Arguably, vocational teachers' participation in developing VE policy is crucial for its effectiveness (UNESCO-UNEVOC ICTVET, 2016). Vocational teachers are generally focused on assisting students to prepare themselves for a broad occupational field and their long-term careers.

2.4.7 Quality assurance in vocational education

Quality Assurance (QA) in VE consists of the totality of principles, methodologies, actions, measures and instruments through which quality is assured at system and provider level. Conceptually, QA of VE qualifications focuses on achieving quality outcomes. It is the responsibility of all key stakeholders, at all levels of the VE qualifications system: the international, regional, national awarding bodies and VE institution levels. At national level, QA of VE qualifications should be seen as an end-to-end process, which applies to the conception and formation of qualifications, the assessors, the practical administration of assessment and to the issuing of qualifications (UNESCO, 2016).

2.4.8 Delivery methods of vocational education

There are two types of VE delivery approaches namely formal and non-formal education, and this can be done in or outside an institution. Formal education is organised, guided and leads to a formally recognised qualification. According to Stephen and Diana (2009), formal education is a contiguous learning process, which means it involves the teachers, students and the institution.

Non-formal VE is any form of training for which the content, learning aims and targets have been defined. Barlett and Burton (2007) claim non-formal education is any organised education activities that may not be guided by a formal curriculum. The education process adopts flexible curricula as it follows the needs and interests of students.

2.4.9 Curriculum

In general, curriculum can be described as the development of professional competencies and which represents the flow from theory to practice. Providers of VE should design the curriculum according to the needs of industry and individual learners. The curriculum should be revised regularly to accommodate advances in technology, strategies in learning and teaching, social and cultural developments. As explained by Byers (2005), a curriculum designer should recognise various sources that play significant and vital roles in the development of the required programmes. Furthermore, in the realm of the new knowledge economy, companies must be involved in curriculum design and implementation (Meredith & Burkle, 2008).

According to a document of UNESCO (2009), the primary role of the curriculum is to organise specific learning activities in such a manner that the relevant, intended and agreed-upon learning outcomes can be acquired. The VE curriculum should provide training according to the needs of the many and different fields that require technically orientated skills, rather than solely academic knowledge and that the curriculum should allow students to focus primarily on training for a career. As such, a variety of occupational focuses

fall under the VE umbrella, namely agricultural education, business education, family and consumer sciences, health occupations education, marketing education, technology education, trade and industrial education. The vocational curriculum can be identified as a combination of classroom instruction-hands-on laboratory work and on-the-job training. Hence the vocational curriculum preparation must always be viewed against the backdrop of the relevant occupational field, the needs of society and of the individual.

2.5 Challenges to vocational education

2.5.1 General

Although many countries have committed resources to VE and have made substantial progress, challenges still remain in most of the VE systems. For example, VE faces challenges of meeting the demands of today's industries posed by the global economic environment. Although the attraction of VE has been steadily growing, there are some challenges to developing the education system. On one hand, dropouts amongst learners create a challenge. On the other hand, the increased popularity of VE with the changing working life and competence requirements create new demands on VE.

2.5.2 Major challenges to vocational education

2.5.2.1 Globalisation

Parsons et al. (2005) echoed that challenges imposed by internationalisation and globalisation trends in higher education, particularly that of competitiveness, is forcing higher education institutions worldwide to look for models to follow. Globalisation of the economy demands more specialised labour markets, higher levels of skills and a diversified VE (Quilter, 2000). Globalisation intensifies pressure on the VE sector to supply the necessary opportunities to workers to acquire the relevant competencies to be involved in globalised activities and to adapt to rapidly changing needs. Consequently, there is an increasing requirement for a more demand-driven VE system with a greater focus on modular and competency-based programmes (UNESCO, 2006).

Salmi (2000:3) said, "... globalization is happening, whether one approves it or not, whether one likes it or not, and every country in the world, every firm, every working person is affected by it". He also described three challenges for VE in relation to globalisation. First, radical changes in training needs are occurring because in knowledge driven economy, workers must have higher levels of skills and knowledge must be updated on a regular basis. Secondly, new forms of competitions are developing, including borderless delivery methods by Internet or satellite technology. Thirdly, new modes of operation are evolving, which means transformation in governance, organisational structure and behaviour.

2.5.2.2 Weak vocational education governance

The governance and management of VE may not be strong in many developing countries. According to ETF (2012b), centrally led VET governance systems were reported as being somewhat rigid and slow to adjust, with subnational actors often left on the sidelines. Furthermore, a number of countries were seen as lacking the effective implementation measures, which could be used to fill capacity gaps at all levels.

Michalski et al. (2001) state that there will most probably be several VE authorities and institutions in one country, including state, non-governmental and private providers, all of which have different interests, administrative structures and approaches to VE, and it is important that the communication and coordination among them should be of a high quality.

2.5.2.3 Limited access for disadvantaged groups

A particular challenge in developing countries is the manner in which to develop long-term strategies in order to increase the participation of disadvantaged groups in VE. A particular concern is the access of women to VE. Access for ethnic minority groups can be limited when programmes are delivered in official or mainstream languages only. The location of vocational institutions in cities will limit the access for students from rural areas, because,

for example, they have to deal with the financial and social implications of living away from their families.

The VE system may be designed to cater to young people, leaving older workers with little or no chance for training or re-training. Hackling et al., (2014) identified socio-economic status, gender and indigenous status as strong indicators for the realisation of VE achievements, which suggest a lack of equity in access to quality VE. Coupled to these challenges is the challenge to support the marginalised youths and adult groups to acquire the relevant knowledge, skills and values and helping them to make the transition from school to work.

2.5.2.4 Growing unemployment

The problem with VE is that it has traditionally prepared individuals for jobs in the lower and middle level of the skill spectrum. The ILO (2015) explained the impact of unemployment partly as a consequence of the changes in the world of work, such as the decline in medium-skilled routine occupations, leading to a larger demand for higher-skilled employment (CEDEFOP, 2016). Consequently, the decline of medium-skilled jobs is a particular challenge. The skills gap arises not because VE is not producing graduates with the right attributes and skills, but because the middle-level employment opportunities are declining. Those with higher-level qualifications are more likely to be employed, while those with lower level qualifications are at greater risk of being unemployed (OECD, 2015: 92).

2.5.2.5 Funding of vocational education

It is a common perception that VET is an expensive educational programme as highlighted by International Labour Organisation (ILO) (2010). The cost in managing VE institutions escalates every year due to the raw materials needed for skills learning process are expensive.

One major constraint that VE is facing in developing countries is the limited budget. In the same vein, Yusuf and Soyemi (2012) agree that inadequate financing is one of the problems that restricted the effective implementation of VE curricula in the different types of TVET institutions.

2.5.2.6 Status of vocational education

The relatively low status of VE among the educational interest groups, particularly when compared to academic routes leading to higher education, is a major challenge for VE. UNESCO (2015: 3) called upon member states to “raise the public profile and attractiveness of VET among learners, families and all other stakeholders and inform them of the possibilities for progression, work, lifelong learning and self-fulfilment”. In Sub-Saharan Africa, many parents and guardians even go as far as discouraging and/or preventing their children from pursuing VE due to the perceived limited opportunities of VE in academic progression and the lack of prestige, (Baah-Boateng, 2016).

The public perception of VE as second-class education will continue to limit enrolment rates and continue to be a major challenge to fully implementing VE in such communities.

2.5.2.7 Employer-based challenges

The non-involvement of industry in the human capital development process, poor quality of infrastructure in institutions, low commitment on policymakers to the promotion of VE are some of the other challenges confronting human capital development in Africa (Baah-Boateng, 2016). Most VE curricula in developing countries are supply driven with little input from the labour market. Not much contribution from the private sector has come in to support VE. This has resulted in VE not answering to the labour needs of most developing countries.

2.5.2.8 Curriculum, equipment and infrastructure challenges

There exists a gap between the intended and implemented VE curriculum. Hackling et al. (2014) observed that teachers lack professional support and

resources to teach curriculum effectively. One of the most common challenges for VE is the lack of infrastructure and, in turn, the funds needed to create quality infrastructure. Cutting-edge innovations, therefore, cannot be realised (Krishnan & Hari Haran, 2016).

2.5.2.9 Professional development of instructors, trainers or teachers

A major challenge for VE in developing countries can be found in the systematic professional development of instructors, trainers or teachers. These professionals are also challenged regarding the use of new technology and keeping abreast of new and exciting teaching methods in various vocational training programmes. According to the World Economic Forum (2016), by 2020, changes in technical employment will occur due to the advancement of robotics, artificial intelligence and machine learning. Consequently, some skills might become obsolete. One of the issues that should be taken into consideration by VE teachers in future is how automation will replace talented workers to execute technical jobs.

2.6 Summary

In summary, the chapter has presented a review of the general features of VE. The review showed that the VE system plays a great role in providing the skilled manpower required by the various economic sectors of a country. The chapter also explored the key features of VE. In addition, some major challenges to the VE system were noted. It still remains a great challenge for VE to continue to flourish in a global economy in which individuals are expected to have well-developed technical skills that allow high levels of flexibility, adaptability and an ability to work across a range of jobs.

In the following chapter, focus will shift to VE practices in India and the UAE with much emphasis on the key features.

CHAPTER 3

VOCATIONAL EDUCATION IN INDIA AND THE UNITED ARAB EMIRATES

3.1 Introduction

The previous chapter considered the general nature of VE. This chapter will present an analysis of VE in India and UAE. The analysis will be restricted to policy documents, together with related material that pertains to VE in the two countries. In this regard, the *Gulf News* (2018) of the UAE reported that VE was a great platform for Emirati students who aspired to succeed, but experienced challenges with academic studies. The head of the UAE National Institute of Vocational Education (NIVE) further reiterated that the neglect of VE in favour of poor quality academic degrees was leading to the failure to produce a technically skilled workforce crucial to the economic development of a nation (*The National News*, 2015). Through careful observation, VE in the UAE has become an efficient and flexible training system that helps young Emiratis build their vocational skills to have flourishing careers.

In the Indian education system, the role of education and particularly VE is fully recognised (Kaushik, 2014). Education is considered a pillar to nation development. Therefore, for development and gainful expansion of any country, the youth should be encouraged towards the acquisition of relevant knowledge, skills and values. However, although India has shown a remarkable progress in the sector of education in the recent times, the vocational training courses are still not regulated in many schools. This has resulted in a major gap between the supply and demand of competent manpower in the country. The shortage of a skilled workforce has led to an increase in the number of unemployed labour in the country. The view of VE as low-status manual work and low-paying jobs is often cited as a reason for low participation rates in VET (Tilak, 2002).

As specified by UNESCO (2011), India's participation in formal VE compared to other developing and developed countries has remained low. However, there has been many developments in the sector. The Government of India in

2014, through the Ministry of Skill Development and Entrepreneurship launched a programme to skill up to 500 million workers by 2022.

3.2 Vocational education in India

3.2.1 Background

This section will provide an insight into the structure of VE in India drawing primarily from the descriptions provided in Agrawal (2012) and Sharma (2010). India, unlike the UAE has one of the largest technical manpower in the world and a high level of youth unemployment characterises the Indian labour market. According to a report by the Indian Government (2015), more than 62% of India's population totalling 1,36 billion is in the working age group of 15 to 59 years of age and more than 54% of its population is below 25 years of age. More than 90% of India's trade workforce is employed in the non-formal sector picking up skills and knowledge in the workplace (Srijia & Shirke, 2014). At the same time, there is a scarcity of skillful workers to satisfy the growing needs of the industry.

Similar to China and different to other countries in Asia, India is characterised by large numbers of learners (Tara & Kumar, 2016; P ilz, 2016a). In accordance with the National Policy on Skill Development and Entrepreneurship 2015 (Government of India, 2015), the number of young people who potentially enter the work force annually is estimated to be in the region of 26 million. Thus, it is clear that an estimate of 105 million fresh entrants to the workforce is expected over the next seven years (by 2022) will need to be trained (Singh, 2012). This is also reiterated by Chenov (2013:199) who says, "...as the Indian economy grows, a large number of skilled persons will be required to sustain this growth".

VET plays an important role to promote sustainable economic expansion of nations for the good and well being of the citizens (Maclean et al., 2013). This applies to India, which has emerged among the most rapidly expanding global economies with an anticipated gross domestic product growth rate on the level of approximately 8% annually until 2022. According to Thomas et al.

(2013), about 75% of new jobs to be created in the next decade will be skills related. India has one of the largest manpower numbers in the world. However, compared to its population, large numbers of educated individuals remain unemployed in the formal sector (Agrawal & Agrawal, 2017). This scenario obviously results in a strong need of an effective vocational training system. In such a scenario, increasing capacity, improving utilisation and enhancing the quality of VE is essential to enhance the employability of the youth and other unemployed citizens.

3.2.2 Structure of vocational education in India

The structure of VE in India is complex. Approximately 17 different ministries in the government provide and finance various VE programmes. Although the bulk of VE provisions fall under the influence of the education and labour departments (Agrawal, 2012), different states of India share the responsibility of provisioning VE in the country (Sharma, 2010).

The Craftsmen Training Schemes (CTS) was designed to provide the youth with opportunities to acquire competencies relevant for productive employment and ensure the needs of the labour market were being met with a steady flow of skilful industrial workers (Sharma, 2010). The ITIs offer certificate level courses in approximately 115 trades and have relatively flexible entry requirements. Students can enrol on completion of eight grades of schooling, as well as after graduating from high school. The length of the programmes offered range from three months to approximately three years.

The structure of VE in India as part of the education system, can be described as in Figure 3.1 below:

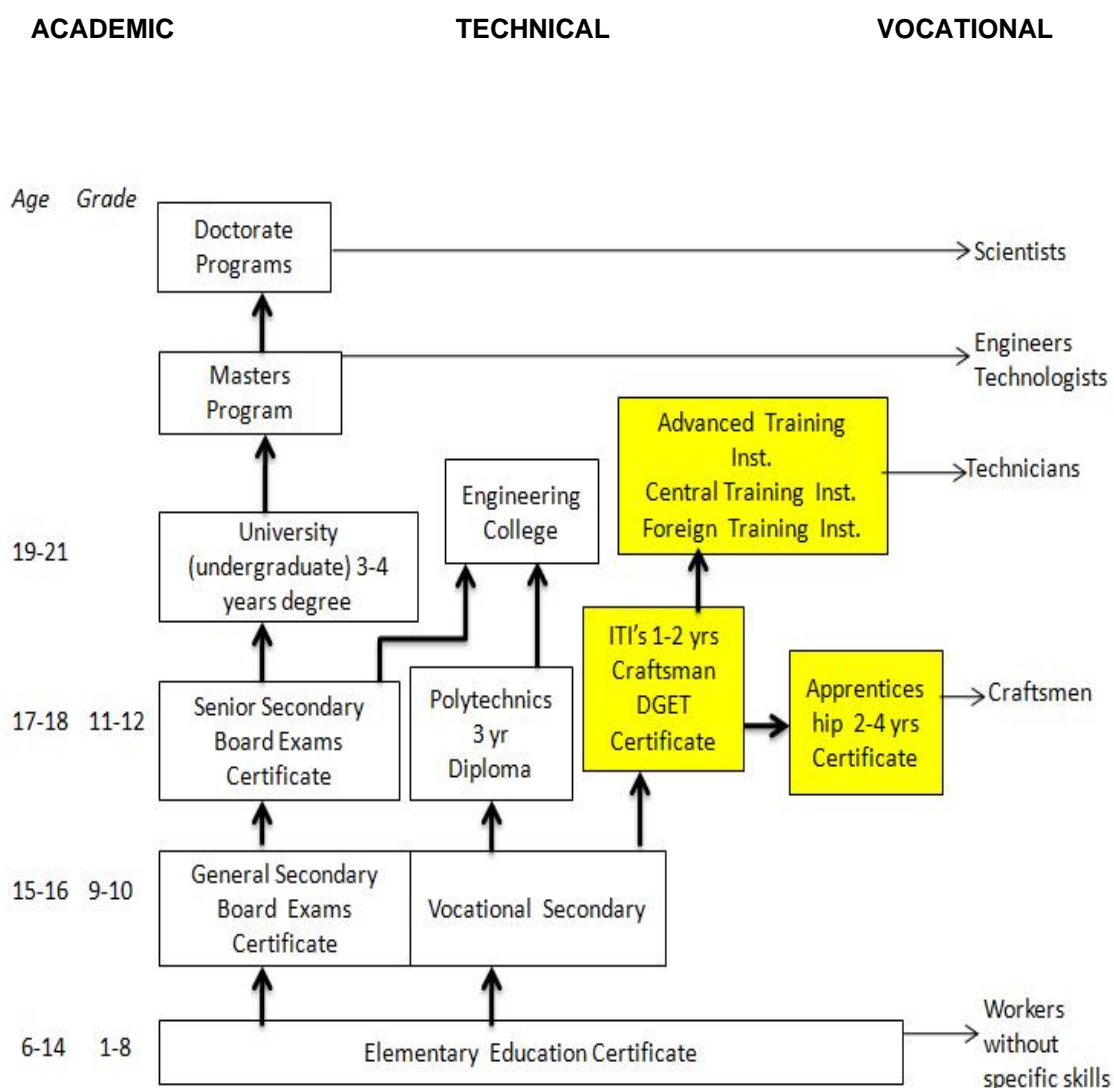


FIGURE 3.1 The Education System in India (Adopted from the World Bank, 2006)

In India, skill acquisition takes place through two basic structural streams, namely a small formal stream and a large informal stream (Planning Commission, 2013).

In Figure 3.1 above, VE is represented on the far right side, where from elementary education, a learner can proceed to a vocational school then to post school level institutions to specialise in a trade as an apprentice or student in technical college. Besides the formal structure of VE described above, India also has a large private and informal network through which VE

is provided. The private, informal providers include NGOs, community polytechnics, adult education centres and establishments providing informal apprenticeships. According to Sharma (2010), these programmes offer relatively short-term training opportunities to informal sector workers.

3.2.3 Current status of vocational education in India

Since the promulgation of the National Skills Development Policy in 2009, the Indian administration has made frantic efforts to encourage VE. Previously, the Indian administration had the National Skills Coordination Board, National Skills Development Corporation and Sector Skills Council. The Sector Skills Council coordinates industry involvement in training and skills development. The National Skills Development Agency (NSDA) has been launched to improve the standard of VE training and administration in the country.

In India, skill acquisition takes place through two basic structural streams- a small formal one and a large informal one. Details of major sources are listed in table 3.1 below:

TABLE 3.1 Skills Development in India (Source: World Bank, 2006)

Type of Source	Institute	Capacity	Quantity
Mainstream education system	Centrally Sponsored Scheme of Vocationalisation of Secondary Education run by the Ministry of Human Resource Development	Enrolling less than three per cent of students at the upper secondary level	9,583 schools offering about 150 educational courses of two years duration
Training institutions outside the school and university systems	Industrial Training Institutes (ITIs) and Industrial Training Centres (ITCs)	Total seating capacity of 7.85 lakh	5488 public (ITI) and private (ITC) institutions imparting VET, of which 1922 are ITIs and 3566 are ITCs.
Diploma level	Polytechnics	1,244 polytechnics run by MHRD with a capacity of over 2.95 lakhs	1,747 AICTE approved diploma programs with 294,370 seats

VE in India basically consists of practical courses through which one gains skills and experience directly linked to a career in future. It helps students to be skilled and in turn offers better employment opportunities. VE in India must

be viewed from different multi-layered practices. VE is provided on full-time and part-time basis. Full-time programmes are generally offered through ITIs, which fall under the Ministry of Labour. Part-time programmes are offered through state technical boards or universities.

3.2.4 Key features of vocational education in India

3.2.4.1 Aims and objectives of vocational education in India

The expansion of the VE sector in India is a response to various educational and employment challenges facing the country (Planning Commission, 2013). The implicit aims of the VE system in India is to support the improvement of equity among the different societal groups, to reduce unemployment rates especially among the youth, balance the demand for higher education, provide skills required by the changes in technology and build a knowledge economy. According to Kotsikis (2007) and Mehrotra et al. (2012), the aims and objectives of VE in India are meant to support achieving an inclusive growth through:

- Enhancing individuals' employability and ability to adapt to changing technologies and labour market needs.
- Improving productivity and living standards of the people through skills training.
- Strengthening the competitiveness of the country.
- Attracting investment in skill development.
- Providing opportunities for all to own skills throughout life especially youth, women and disadvantaged groups.
- To transform the increasing labour force to a skilled and competent workforce for propagating country's economic and social development.

3.2.4.2 Curricula for vocational education in India

VE in India covers courses and programmes, for example, in engineering, technology, pharmacy, applied arts and crafts, hotel management and catering technology. Part of the VE programmes is offered in polytechnics.

Most of the polytechnics in the country offer three-year generalised diploma courses in disciplines such as Civil, Electrical and Mechanical Engineering (Government of India, 2015). In addition, many technology institutions are also offering diploma programmes in areas such as Leather, Sugar and Printing Technology. The ITIs are available to students who leave school after completing anywhere from Grades 8 to 12.

According to the Government of India (2015), there are 11 964 ITIs at present, of which 2 284 are public and 9 680 are private institutions. These institutions are administered under the Craftsman Training Scheme and are certificate level crafts training. Training is provided in 126 trades (73 engineering and 48 non-engineering and five exclusively for visually impaired) of regular maximum duration of two years. ITIs are a major training ground for skilled manpower (Kumar, 2016).

3.2.4.3 Governance of vocational education in India

The main agencies involved in planning VET policy formulation and its implementations in India are government agencies. These include the following bodies: Central government agencies (MHRD, MLE, National Skills Development Council) and State Government Agencies (Directorate of Technical Education; Private sector, Council for technical education, NGOs).

The MHRD and Ministry of Skills Development and Entrepreneurship are responsible for the development of VE policies in India. VE is governed in a decentralised manner through various institutions and departments. The institutions and departments include the following three: first is the National Skills Development Agency (NSDA), which is an autonomous body that coordinates and harmonises skills development activities. It is responsible for, amongst other things the coordination and implementation of the National Skills Qualifications Framework (NSQF) under the Ministry of Skills Development and Entrepreneurship.

The second institution is the National Skill Development Corporation (NSDC), which incentivises skill development programmes by providing financing for the development of curriculum, QA, student placement and setting up standards and accreditation systems in partnership with industry. Third is the All India Council for Technical Education (AICTE) responsible for planning, formulation and maintenance of norms and standards. It upholds QA through accreditation, funding activities and maintaining parity of certification of awards.

3.2.4.4 Funding of vocational education in India

Currently, skills' training in India is largely government-driven with only 36% of companies conducting in-house enterprise-based training (Sharma, 2017). A revamp has become urgent, as under the current government, financing VE alone, the programme has not produced adequate numbers of trained youths. The quality of training is often also poor and does not match the skills needs of industry.

The Ministry of Skills Development and Entrepreneurship is responsible for allocating financing in VE. Funding, includes the following: (i) General tax revenues used to fund public and private vocational training providers, (ii) funding of training by and for the organisation that provides VE (iii) corporate responsibility funds spent to fund VET in India and (iv) a levy to be paid by organisations to government, which will be held in a special fund and will be used to develop ear-marked VE in India. VE in India is not legally free and the government and private providers decide the fee.

The private business community's involvement in VE is next to none. As Mehrotra and Ghosh (2012) pointed out, pre-service VET has been financed by the state through general tax revenues. There have been a few initiatives in India for collaboration on the public-private partnership with the formation of the NSDC with 51% of its equity by private sector and the rest by the government. The NSDC has so far approved 18 proposals for funding which cater to the requirements of 18 identified high growth sectors. There has also

been an attempt to promote the adoption of existing ITIs by the business community (Mehrotra and Ghosh, 2012).

3.2.4.5 Quality assurance in vocational education in India

QA and VE represent two disciplines for competency-based learning. Policymakers have identified a lack of QA as a stumbling block to accomplishing VE objectives. According to Mehrotra et al. (2012), QA in VE is an indisputable pillar of a robust apprenticeship and skills-based ecosystem. Mehrotra et al. (2012) further stressed that QA in India required close thoughtful attention at every stage of the delivery mechanism and tends to fall by the wayside in a rush to get things off the ground.

At the heart of QA in VE lie qualification frameworks to bring coherence to qualifications systems. A key role of the National Skills Qualifications Framework (NSQF) in India is to harmonise qualifications issued by different bodies in the skilling landscape. According to the UNESCO-UNEVOC Commission report (2017), the NSQF is executed by the National Skills Qualifications Committee (NSQC), which develops national occupational standards (NOSs). Some of the key objectives of NSQF include harmonising the fragmentation in VE systems, develop nationally recognised qualification for each level and give due recognition to prior learning and experience.

As echoed by The Observer Research Foundation (2018), several factors in India have contributed to a nationwide malaise in quality of VE. These factors among them includes:

- Too many regulations
- Skills demand and supply mismatch
- Poor training infrastructure
- Out-dated and misaligned curricula
- Lack of qualified teachers
- Low academia –industry linkage

3.2.4.6 Teacher and instructor training for VE in India

Conceptually, VE teacher and instructor training is still seen in many countries as something that can be done primarily by means of practical on the job experience. Very often there are no career paths for becoming a teacher or trainer in VE and there are no clear stages of teacher training either. Pre- and in-service programmes for teachers and instructors are often not in place, creating difficulties for personnel to function effectively without a training support framework in a sector that is highly dependent on innovations and is technology driven. Moreover, according to UNESCO (2015), the shortage of applicably trained teachers and trainers in India is a major obstacle to the growth of VE activities.

A vocational teacher is one who is certified in his/her area of expertise and with relevant pedagogical skills. The vocational teachers and trainers in India though possess professional qualifications in the relevant skills yet have no background in pedagogical or teaching skills. This has resulted in the delivery of vocational pedagogy being a great challenge.

3.2.5 Challenges to vocational education in India

According to Mehrotra (2012) and Chenoy (2012), the persisting shortages in required skills in the Indian labour market have been a serious cause for concern for policymakers and industrialists in India. The present VE system in India faces serious problems and challenges, including outdated courses and curricula, low funding and multiple levels of policy planning and governance. Some of the major problems of the Indian VE system are listed below:

- Multiplicity of regulations, certifications and curriculum: If VE provisions are implemented by various departments, whether government or private, with a multiplicity of certification, standards and curricula, it will lead to the overlapping of study programmes, thereby resulting in uncertainty for learners and businesses (Ismael et al., 2014).
- The demand supply on the job market: the current VE programmes are largely supply-driven and still lack of relevant training for available

jobs. A difference between the skills that the population possesses and skills required by industry is a major cause of low employability among Indian youth. Out of these, several skills have become outdated due to the emergence of new technologies (Thomas, 2013). The demand and supply disequilibrium shows that there is a wide gap between skills by workforce as demanded by the industry (Saini, 2015).

- Lack of coordination among Government Agencies and regulatory bodies: Different ministries in India manage their employability initiatives independently. Coordination between all these players is required to create an enabling environment that enhances the capacity, quality and use of VE (Ismael et al., 2014).
- Inadequate academia-industry linkage: this results in low rates of employment due to the reason that what job providers are seeking for is not communicated with the training sector (Okwelle et al., 2013).
- Lack of updated curriculum, an updated curriculum that is relevant to present day needs of industry is a major requirement. In addition, bridging courses are not offered by any of the vocational training providers to enable people in the informal sector to enter mainstream VE (Maclean et al., 2013).
- Lack of sufficient financing of VE, low funding has a ripple effect on poorly trained teachers and lack of equipment resulting in inadequately trained graduates. Lack of financial resources is further worsened by the shortage of qualified teachers to offer vocational programmes (Maclean et al., 2013).
- Lack of autonomy: Lack of administrative and financial autonomy and accountability is another pitfall in the way. If VE institutions are given good deal of autonomy, they will likely be better able to operate smoothly (Aiyar et al., 2012).
- Poor perception and public mindset: In India VE is viewed as a pathway for low-achieving students, which leads to the notion that VE is meant for misfits, instead of it being a tool to skill workers (Ismael et al., 2013).

- Informal apprenticeship training, which is predominant in India, is based on traditional methods of training and quality of training delivered depends on the skill of the artisan. The basic foundation of general education is missing and only functional skills are being passed from generation to generation.

It is clear from the above points that there are a lot of challenges in the field of VE in India and to achieve the targets there is a strong need of substantial expansion of quality TVET system.

3.2.6 Vocational education best practices in India

A best practice can be deduced from particular techniques, methods, processes or structures that are credited to be fruitful at yielding outcomes compared to other techniques, methods, processes and structures. Below are some best practices for VE in India that can serve as lessons to be learned for other VE systems (Kumar, 2016, Planning Commissioner, 2013):

- NSQF a competency-based framework that organises all qualifications according to a series of levels of competencies. The NSQF comprises of all major stakeholders and entrusted with approving accreditation norms and aligning the NSQF with international qualification framework.
- Successful cases of the skills development system establishment: The following cases in skills development in India may be considered the most interesting: (i) Involving private companies in the education process, (ii) the success of niche players in the skills development system, (iii) the experience of creating and reforming the VE system, (iv) establishing NSQF and (v) international collaboration and funding realised within government programmes and with the cooperation of businesses.
- Skills development system structure: The structure of the skills development system involves three main organisations: (i) The National Skills Development Corporation (ii) The National

Development Agency and (iii) The Director General of employment and training.

- The National Skills Development Corporation is a key organisation aimed at supporting a healthy skills development ecosystem for the private sector. The corporation involves representatives of the key industries in the education process, to that end, 38 sector councils were set up.
- VE programmes targeted and coordinated to support national development goals.
- Integration and coordination with other ministries who are involved in VE.
- Specialised institutions, these play an important role in the provision of specialised VE in India.
- Site training is important for vocational students and involves workplace attachment for students.

3.2.7 Summary

The industrial and labour market trends clearly indicate the necessity of strengthening VE in India. While it is evident that education can transform lives, it does not necessarily transform into employment. Today VE has been identified as a proven requirement of any country for its development. A mismatch between the skills offered to the youth and the skills required by industry is a main cause of low employability among Indian youth. The poor quality of mainstream education, limited access and capacity of current VET, lack of focus on skills required for the current job market and poor enabling environment are major challenges of the VE sector in India.

The next section will give an overview of key features of VE practices in the UAE.

3.3 Vocational education in the UAE

3.3.1 Brief history of the UAE

The UAE was formed out of a group of seven ancestrally organised Arabian geographical areas between the Red Sea and the Persian Gulf, as illustrated

in Figure 3.2. These Sheikhdoms representing separate Emirates were entangled deeply in conflicts between the 17th and the 19th centuries. As reported by the UAE Government profile (2016), the United Kingdom declared its option in 1968 to cut ties with the seven Arabian territories and on December 2 1971, the Sheikhdoms entered into a Federation called the UAE. The constituent emirates are Abu Dhabi, Dubai, Sharjah, Fujairah, Ajman, Ras-al-Khaimah and Umm-al-Quwain.



FIGURE 3.2 Map of UAE (Source: UAE Country Profile)

The UAE has a population of 9,4 million, of which 1 400 000 are Emirati citizens and the rest foreigners. The seven Emirates of the UAE are semi-independent and an absolute monarch governs each emirate. They jointly form the Federal Supreme Council. All emirates have a high degree of political autonomy in a variety of areas, including education, which presents considerable challenges for the standardisation of education between the different sheikhdoms.

One of the monarchs is selected as the President of the UAE. As claimed by the UAE Government (2016), its founding leader oversaw the development of the Emirates and steered oil revenues into health, education and

infrastructural development. This has resulted in the economy of the UAE being the most diversified in the Gulf region, while its most populous city of Dubai is an important global city and an international aviation hub.

The UAE government spends 24% of its expenditure on the education sector to facilitate the educational excellence for its citizens. The projected size of this sector is US\$7.32 billion (UAE Research Report, 2016). General education and VE has been a primary concern for the UAE government and since its inception in 1971, it has worked in conveying education among all for the progression of the societies (Godwin, 2006).

3.3.2 Background of vocational education in the United Arab Emirates

3.3.2.1 General

When considering the background of VE in the UAE, it is noticeable that VE is regard as an essential sector in supporting the citizens with the necessary employability competences (Wilkins, 2002). The UAE Government has therefore, taken ample initiatives in developing strategies to encourage TVET in the higher educational field of the UAE. For the same purpose, the ADVETI in 2007 was one such initiative taken by the Abu Dhabi Education Council (ADEC) and the largest Australian government VE provider, namely the Technical and Further Education Commission of the New South Wales (known as TAFE NSW) to promote VE among all. The mission of this commission was to develop and deliver VE designed for the citizens of the UAE in such a manner that they can effectively participate in the UAE workforce.

The UAE vocational skills sector is focused on high-tech expertise and this is why more and more local Emiratis are gravitating towards VE (The Gulf News, 2018). There is an abundance of opportunities in fields such as cyber security, drone technology, game development and mechatronics, which many of todays' students find exiting. Instead of harbouring a stigma towards VE, a lot of Emirati students are looking to enhance their skills to enhance their skills and pursue technical high-end careers (The Gulf News, 2018).

The UAE has a superior and diversified tertiary education comprising institutions with global recognition. According to the *National Editorial* (2016), the UAE, in an attempt to strengthen and boost skills, is working on the expansion of VE to meet the local skills demand. A number of companies have a hand in the skilling of the UAE locals.

One of the seminal features of education in the UAE is that it is free for all citizens, at all levels (Wilkins, 2002). The Ministry of Education and Youth and the MHESR are tasked with managing the educational system, while the Ministry of Labour and Social Affairs oversees vocational training.

3.3.3 The vocational education sector in the United Arab Emirates

VE in UAE received proper attention since the 1980s with the introduction of Higher Colleges of Technology in combination with technical education at secondary level (Wilkins, 2002). VE has been regarded as a catalyst in extending economic conditions, diminishing unemployment and poverty, providing a skilled labour force and a range of academically able students (Wilkins, 2002). Some of the top vocational and technical institutes in UAE are: ADVETI; Abu Dhabi Polytechnic; The National Institute for Vocational Education (NIVE), Fatima College of Health Sciences (FCHS), Dubai Aerospace enterprise University, and MASDAR city. In 2000, the Commission for Academic Accreditation (CAA) was established by the MHESR as an authoritative body to certify the authenticity of vocational institutes. Among others the government recognised the National Qualifications Authority (NQA) in 2010 as a legal body for responsible for determining the national academic standards of the UAE (Swan, 2012).

The Abu Dhabi government has played a prominent role in providing technical and vocational education among emirates. The evidence of its efforts in promoting VE is visible in the Emirates Skills programme initiated by the ACTVET as a host of the World Skills Competition in 2017 (MOE, UAE, 2013). World Skills is a global organisation that aims to encourage TVET together with the governments of various countries.

3.3.4 Initiatives to encourage vocational education in the United Arab Emirates

The UAE government has initiated a national strategy for VE in order to market VE and convince the citizens about the value of VE. The strategy emphasises the importance of the development of students' skills and knowledge, while motivating them to pursue higher education (UNESCO, 2015). It strives to improve the quality of education by focusing on the educational values and ensuring the accessibility of education to all who want to access it. The strategy also aims to develop efficient workforce through a plan termed 'Vision 2020'. The initiative is to train the skilled workforce in the higher education institutes for equipping them with industry-based training. To fulfil its objectives, VE programmes are organised to support individuals to acquire the relevant theory and practical abilities. In addition, the organisation arranges for opportunities of work-placement-learning, which is mandatory to attend for six weeks (MOE, 2014).

With the aim to instigate the process of skill development and to diversify the economy, the Abu Dhabi Executive Council established the ACTVET in 2000. It plans strategic VET policies in providing guidance and support to the Abu Dhabi public and private VE institutes. It is also accountable for licensing trainers as per the criteria set by the UAE's local market.

The ACTVET is a body that supervises a number of entities that provide accredited educational, technical and vocational training programmes. Funded and accredited by the government, the ACTVET runs Applied Technology High school campuses and Secondary Technical Schools (STS) with the aim to teach pupils in trade skills. At STS, pupils from grade G10-12 classes, study core subjects, such as mathematics, science, Arabic and English. Learners also take elective vocational classes in business, engineering maintenance, aviation maintenance, health science or creative media production.

The students graduate with a certificate and internationally recognised vocational qualification. When they graduate from school, they are ready for work. The students can also go to university for more specialisation. The ACTVET also runs post-secondary institutions that offer advanced VE courses. Most of the students in high school are sponsored by industries so when they finish college they end up with a job directly. The STS have been established in all emirates to provide young Emiratis with a senior high school education that has a focus on vocation and technology education.

The National Institute for Vocational Education (NIVE) was established in 2006, in order to provide students with the opportunity to gain specific job competencies geared to enhancing their employability. The main mandate of NIVE is to contribute to the development of a highly skilled and employable workforce that forms the foundation and key to innovation at regional and international levels, as well as productivity and international competitiveness in accordance with the current and future needs of the labour market (MOE, 2014).

3.3.5 Key features of vocational education in the United Arab Emirates

3.3.5.1 Aims and objectives of vocational education in the United Arab Emirates

Similarly to the rest of the world, the UAE's international future is dependent on the availability of a highly skilled workforce. Therefore, the UAE had to prioritise the development of relevant VE competencies in order to coincide with new and emerging technologies, materials and systems that will support the achievement of significant improvements in productivity, efficiency and social well-being. Achieving this priority would involve the following aims (ADVETI, 2014):

- To develop a skilled workforce as per the demands of the labour market
- Comprising of employers, government, and stakeholders.
- Increasing the stakeholder investment in the development of world-class skills.

- To train individuals with theoretical and practical knowledge.
- To provide customised and high quality VE as per the professional standards.
- To generate skilled Emirati for the purposes of acquiring greater career opportunities and development.

3.3.5.2 Vocational education teaching staff in the United Arab Emirates

According to Wilkins (2002), one remarkable feature of Emirati internationalisation, and one not often seen in other countries, is the fact that the country's tertiary teaching staff is now almost exclusively foreign nationals, even in public institutions: 98% and 92% of instructors in private and public institutions were expatriates in 2014. While the government follows a systematic Emiratisation policy that seeks to increase the percentage of Emirati employees with quotas in the public and private sectors, including education, it seems as if the policy does not hold for the higher education system.

The teaching, technical and vocational education staff, as specified by the UAE MOE (2015), is usually expected to have academic qualifications and substantial, verified employment experience in specialised, acceptable fields. Staff must be able to teach technical and vocational education programmes and to assess the acquired competencies based on industry standards. Teachers undergo a QA system twice or three times a year. This takes the form of a regular assessment of the teachers/lecturers by a lead teacher or department head.

3.3.5.3 Quality assurance and qualifications

The UAE strives to increase the graduates based on current aims to expand its VE sector in order to develop a better-trained workforce (ADVETI, 2014). According to the Emirati government, the UAE needs to train 10 locals in the field of VE for every university graduate in order to achieve a sustainable and diversified knowledge-based economy. Therefore, it focuses on building a

national system of quality assurance for VE. To that end, the UAE created a federal Vocational Education and Training Awards Council (VETAC) under the National Qualifications Authority (NQA), which was established in 2010. The NQA is responsible for developing a comprehensive, industry-focused VE system and to establish sufficient quality control of VET providers. VETAC checks and approves vocational qualifications based on occupational skills standards that are benchmarked in the NQF.

In 2014, VETAC authorised the ACTVET to develop and award vocational credentials in Abu Dhabi and the northern emirates, and approved KHDA to do the same in Dubai. Clearly defined programme structures and learning outcomes for specific VE qualifications can easily be found on the website of the ACTVET (ACTVET, 2015).

In his study of QA bodies and systems in the UAE, Barqawi (2012) concluded that the UAE had taken great strides in ensuring quality in the education system. VETAC was established under the umbrella of the National Qualifications Authority. The NQA and VETAC have developed a comprehensive system to regulate and quality assures VE providers and qualifications in the UAE. The aim of NQA's regulatory system is to embrace the full range of qualifications discipline fields, levels of training, duration of programmes and credit values. VETAC will consider qualifications and awards based on national occupational skills standards for endorsement as well appropriate qualifications and awards from foreign awarding bodies.

3.3.5.4 Funding of vocational education in the United Arab Emirates

In terms of sources for VE funding in the UAE, the bulk of financing for public institutions comes from direct budget allocations from the treasury, (UAE Government, 2015). In addition, a corporate tax is collected from oil companies and foreign owned financial institutions. There are virtually no mechanisms available to private VE institutions to access public funding. Student fees are the most significant source of funds for private VE providers. Meanwhile training for employees in private enterprises is almost entirely paid

for by that firm. According to Abu Dhabi e-Government (2016), federal government funds public VE institutions in the UAE. Allocations from the fund will be made for the following areas:

- Financing the needs of VE institutions for equipment, raw materials, teaching aids and wages for trainers.
- Developing training and retraining programmes.
- VE awareness
- Scholarships based on the financial needs of eligible students

In the UAE, the majority of private institutions are for profit. These institutions typically have owners or investors who have an expectation that there will be a financial return (Ridge et al., 2015).

3.3.5.5 Governance of vocational educational institutions

VE in the UAE falls under the MHESR. The UAE is reported to have well developed policies and governance for VE with smooth implementation. Private provision of VE services comprises proprietary private institutions, as well as NGOs. Private provision is concentrated in a few sectors such as information technology, languages and services and generally offers short-term courses. It is a condition that private programmes and organisations should be registered with the government in order to operate on a local and national basis, and the government provides accreditation to the training provider on the basis of equipment, furnishing and staffing.

The UAE has a unified structure of governance for VE through VETAC, a supervisory and regulatory body at the federal level. VETAC is the operational body of the NQA, which manages and coordinates the UAE's technical and vocational education and quality assures VE outcomes.

The role of VETAC involves setting and maintaining standards, administering and validating national vocational awards developed by or on behalf of the industry. VETAC comprises of two regulatory agencies namely the ACTVET for Abu Dhabi and KHDA for Dubai (NQA, 2014)

3.3.5.6 Vocational education curriculum and qualifications

The UAE VE system follows a set of harmonised competency-based curricula and quality standards, which have revolutionised the VE sector and allowed graduates to work anywhere in the country and in any industry. A requirement of VE programmes in the UAE is that students complete a work placement or work integrated learning period (NQA, 2012) where they are expected to practice in the workplace those skills they had acquired at a learning institution. This gives the learner valuable hands-on experience and exposure to the real nature and environment of the world of work. Participation of industry representatives in special committees has been the norm for programmes under MOHER. In a joint effort with industry and other experts, VE committee prepares curriculum to adapt training to the needs of the workplace.

Over the decades, there has been a growing interest in internships by students looking for internships and by institutions integrating them in their curricula (Saniter et al., 2018). Internships are practical work placement programmes designed to provide participants with professional experience in an area related to their field of study or the career they are working towards. The aim of providing industry-specific opportunities is to enable interns to develop skills that will enhance their prospects of gaining meaningful employment and building their careers. Internships can be tailored to individual needs by giving participants the choice of industry, location and duration.

The UAE VE system is based on accredited qualifications. Accredited qualifications are credit bearing technical and vocational qualifications that are endorsed by the NQA and recognised throughout UAE. They are qualifications at levels 1-9 of the NQF for UAE (NQA, 2012). Each individual level on the framework is ranked according to difficulty and level of complication. Two major qualifications are recognised across the UAE. First, there is the knowledge and skills-based qualification meant for those seeking

advanced standing in higher education programmes. The second qualification is practically oriented and seeks to measure what a learner has mastered based on workplace standards.

VE credentials in the UAE range from certificate, diploma and advanced diploma qualifications to applied bachelors and master's degrees. Certificate and diploma programmes are offered at institutions like the ADVETI or the National Institute of Vocational Education (NIVE) in fields like office administration, human resources, travel and tourism, information technology, health and safety and engineering maintenance. Institutions like the Higher College of Technology (HCT) and the Emirates Aviation Institute offer applied vocationally geared bachelors' and master's programmes in fields like aviation, maintenance engineering or marine engineering.

3.3.6 Challenges of vocational education in the United Arab Emirates

The rate of enrolment in the vocational institutes is only 1-3%, which is marginally lower than the global percentage. The greatest challenge facing the UAE government is encouraging its nationals to take up manual and technical jobs and jobs in the private sector. The challenge faced by the higher-level education sector is the lack of people who are readily participating in VE. Low enrolment figures pose a challenge to VE in UAE (Swan, 2012).

Most of the private institutions were established in the UAE after 2005 when internationally based universities entered the UAE with the motive of expanding tertiary education in the UAE. However, most of these universities offer a narrow range of courses that can easily be established at lower prices. Institutions found it difficult to enrol a sufficient number of students even after reducing their tuition fees (Wilkins, 2012). One of the reasons for this low enrolment rate is that the students preferred studying in countries such as the USA, the UK and Australia.

The World Bank (2014) reported that one-third of VE graduates in the UAE are not ready for the workplace and that a skills mismatch exists. Further to

this challenge of VE relevance, the World economic forum predicts that over 47% of all work activities in the UAE are susceptible to automation. As a result, it is believed that by 2020, 21% of core skills in the UAE will be different compared to skills needed in 2015 (Samans & Zahidi, 2017).

3.3.7 Vocational education best practices identified in the United Arab Emirates

The education system of the UAE has improved greatly over the past 30 years. Various best practice methods for VE have been put in place to help the locals prepare for future employment, and these includes some of the following considerations:

- Technical and vocational skills require specific technical know-how hence the need for expert instructors in the field. The UAE has achieved greatly in recruiting skilled labour. While the education system has traditionally relied on teachers from the Middle Eastern countries typically for cultural reasons. Policymakers have begun to hire western teachers to facilitate the modernisation of the education sector (Raven, 2011). To ensure the quality of this education system, skilled labour in the form of highly qualified vocational teachers is often recruited and mostly from the United Kingdom, United States of America and South Africa, countries which are assumed to have higher levels of education, exposure and technological advancement. The collective effort of all stakeholders has made VE successful in the UAE. Industries have supported government initiatives on VE.
- The UAE formulates interventions to improve the quality and relevance of VE programmes. These interventions focus on developing training programmes in accordance with the requirements of the labour market and in national qualification frameworks.
- The marginalisation of women leads to many countries losing out on the possibility of using the potential of this human capital. According to UNESCO (2015), gender equity is seen as an aim and a pre-condition for sustainable development. In some countries where VE courses are specifically offered for women, this is typically limited to traditional

female tasks in garment, food, health and service sectors. In the UAE, there is a great expansion in the number of women enrolled in VE institutions and taking various courses from aviation, mechatronics and other engineering related trades.

- Demand responsiveness, matching skills supply and demand. This has led to an improvement in the quality of VE curriculum and teaching through partnerships between private and public enterprises.
- The UAE has simplified its VE system through a modularisation process, which involves the breaking-down of whole educational qualifications into useful subunits. Each of the units has measurable outcomes that are assessed on a competency-based learning approach. The competency approach allows learners to work on one competency at a time, which is likely a small component of a larger learning goal.
- Mainstreaming life skills education as a key strategy for improving the quality and relevance of VE in the UAE. Skills for employability should be considered in the continuum of learning experiences that start at the basic education level and continue through life-long learning opportunities.
- With the radical developments that characterised many sectors in the UAE, such as artificial intelligence, robotics, the Internet of things, manufacturing, 3D printing and other innovative and novel futuristic trends, TVET in the UAE is now manifesting itself as a core factor that prepares the field for an emerging labour force who wish to embark on future opportunities of work.

3.3.8 Summary

The review on the growing trends of the VE sector in UAE makes it evident that, the government of UAE has recognised the dire need to promote VE among its citizens. To meet this industry requirement, young Emaratis must have employability skills and technical knowledge, which is imparted through vocational training.

3.4 Chapter summary

This chapter provided a general background on VE systems of two countries, namely India and UAE. The VE system in India, as in many other developing countries, is faced with a number of challenges. One of the recent pertaining challenges is the issue of the unemployment of graduates, which has somehow occurred as a result of the mismatch between the curriculum offered in institutions and industry expectations. Unlike India, the UAE to some extent has managed to address a number of challenges, especially through a strong institution and industry partnership that has seen the industry and commerce being partners with the VE sector in crafting the curriculum.

The following chapter will discuss the VE system in South Africa, looking into the key features and challenges facing the sector.

CHAPTER 4**VOCATIONAL EDUCATION IN SOUTH AFRICA****4.1 Introduction**

Recently, VE has occupied a prominent position in the international developmental agenda. Institutions such as the World Bank (WB) and the ILO drive this education system. VET in South Africa is widely seen as a tier of education that has the potential of contributing to skills training at the intermediary skill level and being a catalyst to growing the country's economy while providing better employment opportunities for the youth. It is generally seen as a preparation for employment (Paun et al., 2011).

VE could help a country to reach development goals of decent employment as well as help to develop the competencies required to create a capable workforce that will support inclusive growth. The DHET White Paper on post school education and training (Republic of South Africa, 2013a) envisaged an integrated post school system in which articulation between the various levels of the higher education and training system in South Africa is encouraged.

The previous chapter examined VE practices in India and the UAE. This chapter aims to address VE practices in South Africa and then conclude with suggested best practices from South Africa VE sector.

4.2 Background of vocational education landscape in South Africa

There is a rich literature on pre-colonial South Africa up to the mid-twentieth century in respect of VE. Africans had their own vocational training in the form informal way, undertaken by parents and elders through activities such as agriculture, weapon making and sculpturing (Hlatshwayo, 2014). Training was an informal type of apprenticeship introducing young people to the specific communities' forms of economy or livelihood. In other words, it was a form of training which "aimed to ensure stability and continuity in society" (Hlatshwayo, 2014).

VE in South Africa originated as part of the industrial Revolution in the 19th century. The discovery of diamonds and gold in the second half of the 19th century led to the rise of extended industries, which gave birth to an increasing demand for skilled craftsmen and technicians (Kruger, 1986:183). The demand for VE to be made available to the youth was an outgrowth of industrial development in the late 1800s. It was linked to mining and the development of railways, harbours and small engineering workshops in the urban centres.

The De Beers Mining Company made the attendance of apprentices through compulsory evening classes, which led to the establishment of the school of mines in Kimberley in 1896. The typical subjects taught in these courses were machine construction, practical mathematics, carriage building, and sketching (Malherbe, 1997). During 1906 and 1916 a number of new colleges was established. The Pretoria Polytechnic and Durban Institute opened in 1906 and 1907 respectively. In 1909 the Pretoria Trades School opened and focused mainly on preparing students for mechanics, woodwork, wagon building, printing, blacksmithing as well as plumbing and electrical trades.

The Second World War in 1939 propelled South Africa into its first industrial revolution and technical colleges were required to provide the Union with 20 000 technicians to maintain the production levels in the country, as well as to man the armed services. Consequently, the COTT was established to train technicians to service the machinery of modern warfare and to determine the syllabi and methods of instruction (Malherde, 1997). An important feature of COTT was the introduction of trade testing and national standards. When the COTT training programme was terminated in 1948, the provision of trade tests contained in the COTT training programme became an essential aspect of the Apprenticeship Act of 1922.

The era between 1950 and 1980 was characterised firstly by a relative stagnation of technical colleges and secondly by racial and ideological engineering. Historically, African education had a strong vocational but limited technical component as technical education mainly took the form of trade instruction (Chisholm, 1992). The students' revolt of 1976, crystallising a deep

organic crisis in the state and economy (Saul & Gelb, 1976), provided a turning point in state commitment to the provision of technical education for black people.

4.2.1 Post-apartheid vocational education

South Africa's post-school sector is 'located at the nexus between the formal education system and the work place' (Nzimande, 2013, viii). As such, the sector is seen as a conduit to the world of work and it comprises: universities, TVET colleges, adult learning centres', SETAS and SAQA. A common mandate for all these different institutions and entities is to ensure that those entering the labour market are qualified to take up employment and income generating opportunities that exist (Nzimande, 2013)

After the first democratic elections in 1994, the ANC released numerous policy documents to address the political, social and economic challenges faced by the country. A policy framework for education and training (ANC, 1994) was released to form the basis for further development of education related policies in future. The Skills Development Act, 1998 (Act No 97 of 1998) replaced apprenticeships with learnerships, as a combination of unit standard-based structured learning and practical work experience that leads to a qualification on one of the levels of the NQF.

The White Paper 4 on education and training in 1998 followed and provided the core values and vision for the establishment of the new education and training system (DoE, 1998). The policy document led to the immediate focus on the VET policy development process. VE underwent drastic reforms following the dissolution of the apartheid regime in 1994. Mummertney (2010), noted that since the advent of democracy in 1994, South Africa has made significant gains and progress in overcoming the skills development legacy of its past. Mummertney (2010), further reiterated that despite this progress, a low level of skills among the majority of the formerly disadvantaged still remains as one of the country's most pressing concerns and greatest impediments towards a better future for all. Mbeki (2004a), in his vision saw vocational skills development as becoming a bridge for crossing

the chasm between the two nations that characterised South Africa in the pre and post-independence eras.

4.2.2 South African current vocational education sector

The transformation of VET has been a significant feature of the post-2008 education and training landscape after the establishment of a dedicated post-school education and training ministry, the DHET.

The Skills Development Act 97 of 1998 and the Skills Development Levies Act 9 of 1999 were established by the Department of Labour to encourage VET in the workplace by allowing employers to claim back portions of a skills levy paid to government if they provide training to employees. South Africa has 50 public VET colleges created out of the merging of former technical colleges, colleges of education and training centres (Government of South Africa, 1998). The sector has been undergoing reforms and restructuring programmes in recent years. The latest policy breakthrough, the White Paper on post-school education (DHET, 2013), provides important insight on its envisaged role in the national education and training space.

Subsequently, the White Paper for post-school education and training was promulgated by the DHET (DHET, 2013). The DHET envisaged with the release of the White Paper to improve the capacity of the post school education and training system to meet the needs of the country. Some of the policy intentions include the expansion of access to education and training by 2030 to increase the student intake to 5,6 million enrolments (DHET, 2013). The White Paper (DHET, 2013:14-19) focused on the improving of TVET colleges. This included the offering of relevant programmes by receiving the existing qualifications that became outdated, the upgrading of lecturer qualifications, capacity building for management and governance, improved learner support and improved partnerships with employers. The White Paper also suggested a commitment to improved funding norms and standards from DHET and the levy-grant system that should fund the diverse range of TVET programmes (DHET, 2013:18). The school system of the South African education system can be illustrated as in Figure 4.1

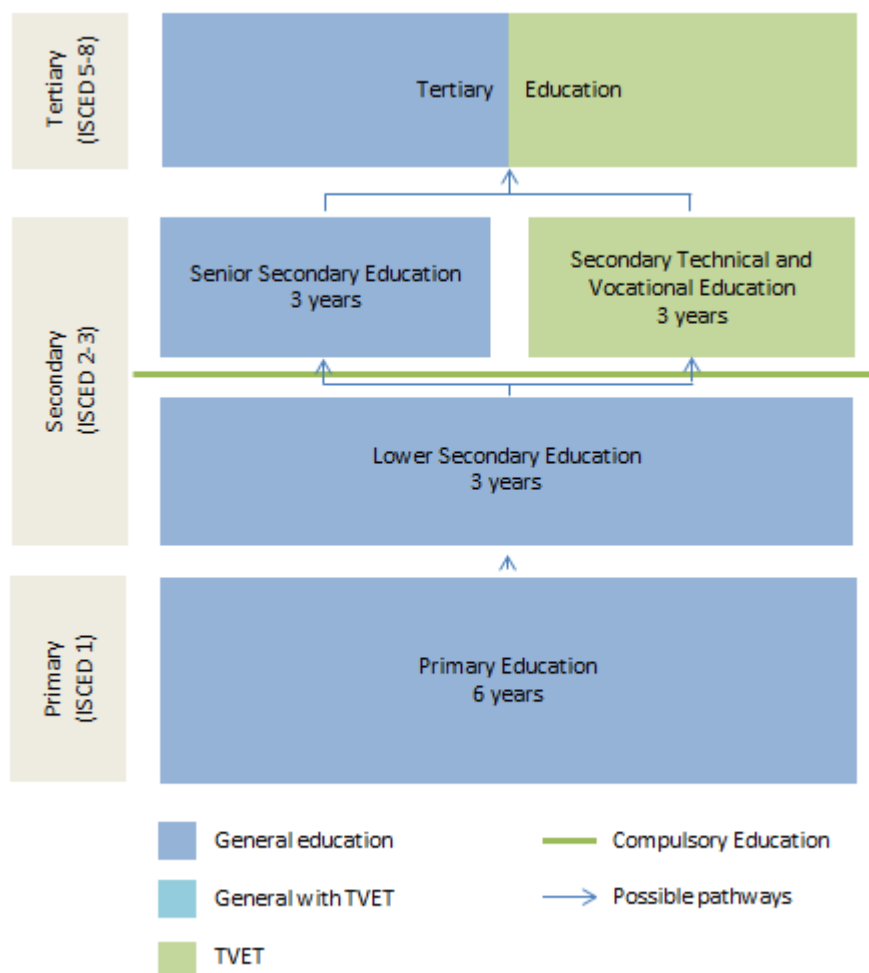


FIGURE 4.1 Education System in South Africa (General and Vocational)
(Source: South Africa Country Profile)

Community Education and Training Centres were proposed by the DHET to cater for the provision of second-chance learning opportunities for-out-of-school youth and adults. The establishment of the community training centres was envisaged by the White Paper to contribute to the expansion and strengthening of the integrate and diverse post-school system. The establishment of South African Institute for Vocational and Continuing Education and Training was to be one of the most strategic changes that would contribute to the improvement of the overall quality of TVET colleges through, for instance, developing innovative and industry responsive curricula

and upgrading of technical knowledge and pedagogical skills of existing TVET college staff (DHET, 2013).

The capacity to manage these larger merged colleges was, however, often lacking (Gewe & Morojele, 2014). Subsequent reforms included the recapitalisation of the declining Further Education and Training college sector from 2005 to 2008, which sought to address infrastructural, resource and capacity challenges, legislation in 2006 that transferred the staff of Further Education and Training colleges to employment by college councils, and the provision of bursaries for college students through the National Student Financial Aid Scheme and a new NCV curricula.

DNA Economics (2016) argues that the throughput rates in VE colleges are low, because students in the system do not receive sufficient academic and financial support. This suggests that substantial additional funding per student might be required to improve throughput rates and efficiency in the system.

The current South African VE context is beset by a range of challenges. Years of neglect have left the sector considerably weakened. By all measures, the college sector is associated with inadequate throughput and output (DHET, 2012; The Presidency, 2012). Poor labour market outcomes (Lolwana, 2011), understood as poorly defined curriculum responsiveness and inadequate industry and labour market relationships provide a picture of a sector on the weaker side of average by many counts. The lack of resources ostensible as a result of underfunding of colleges, together with inadequate and unskilled staff leads to challenges in administration and governance. The lack of parity of esteem between it and other types of higher education forms a sector considerably undermined in the national space of South Africa (HRDC-SA, 2014).

The revitalisation of VE colleges in South Africa necessitated many policy changes, which later revealed many unintended consequences. For example, the introduction of a new curriculum named the NCV. This curriculum was perceived to be relevant to the needs of the economy as the country was

experiencing a shortage of artisans (Buthelezi, 2016; Godongwana, 2011; Mateos, 2014). It was never anticipated that the curriculum would be plagued by a myriad of major challenges, such as failure to deliver on its main objective, namely to achieve artisan development at an expected rate.

4.3 Key features of vocational education

4.3.1 Aims and objectives of vocational educational training in South Africa

From their inception, VE institutions were seen as a vehicle for providing competencies that respond to the economic needs of the country (Buthelezi, 2016). VE in South Africa seeks to function as a high quality, transformed and responsive system. The government of South Africa uses this system to promote the integration of education and training, as well as the enhancement of learner mobility and progression to ultimately meet human resource needs. Colleges were positioned to provide sufficient opportunities to satisfy the needs for priority skills' demands by delivering sound general-vocational programmes that would assist young people to prepare themselves for entry into the workplace (Gewer, 2016).

Generally, VE systems are built to address these needs and to further promote personal, social, civic and economic development of the country. The aim is to provide people with immediate to high-level skills that would lay a foundation for higher education, facilitate the transition from school to work and develop autonomous life-long learners (UNESCO, 2010). According to CEDEFOP (2017), VE is aimed at equipping people with the knowledge and skills required in particular occupations or more broadly in the labour market.

In South Africa, VE is perceived to have a fundamentally instrumental function in providing the necessary human capital required by the industry (Tikly, 2013:5). According to Tikly (2013:15), the sustainable development emphasised the purpose of VE as the provision of the required competencies to support economic, social and environmental sustainability.

4.3.2 Management and governance of vocational education in South Africa

The management and governance of VE system in South Africa was initially assigned to the national and provincial DOEs (DHET, 2013). The VET colleges sector, as a national and provincial competency, was shared between the two levels, namely the national and provincial levels, as well as between the DOE and DOL (Akoojee et al., 2005). The complexity of this administration system posed challenges for the efficiency of the system (Field et al., 2014).

More efficient and effective management and governance structures and practices of the VET sector came with the creation of the DHET in 2009. The DHET was tasked with the development of the human resource capacity of the workforce in an inclusive manner by bringing together the responsibility for university and college sector, the SETAs, the National Skills Fund and qualification and QA bodies (Field et al., 2014). The FET Colleges Act of 2012, as amended, shifted the administrative function of adult learning centres and TVET colleges from the Provincial Education Departments to the DHET (DHET, 2013a). This Act brought along its trail a transfer of staff from the TVET college section in the VET college staff to the DHET (DHET, 2013).

4.3.3 Vocational education funding in South Africa

Adequate funding is crucial for quality VE provision. Funding policies and mechanisms according to Afeti (2006) would include public funding, training fees, private funding, international assistance, industry support and funding from non-governmental organisations (NGOs). The principal source of funding for VE in most countries, including South Africa, is the government with supplementary support from a range of organisations, bodies and individuals. Levies imposed on enterprises, effectively known as taxation, are a further option for generating funds for VET support and promotion of skills development (Afeti, 2009). Training funds outside of normal government allocation may be supported by means such as levies on organisations, businesses or industries and by donations from one source or another (Johnson, 2009). Globally, the funding of education and training is

underpinned by several important considerations, including the purpose and aims, funding mechanism, social and economic relevance and levels of spending. However, the funding has not been enough to meet the infrastructural needs of VE, leaving the sector underequipped.

Currently, South African colleges receive the bulk of their funding (plus 85%) from DHET, about 60% from training transfers, bursaries and loan funding (approximately 20%), and for specific projects from the National Skills Fund (about 5%) (DNA Economics, 2015). As indicated in Figure 4.2 below, VE colleges in 2013 received a total of R9,1 billion in funding with the largest portion of their funding from government sources. TVET funding is illustrated in Figure 4.2 and the growth in funding in Figure 4.3.

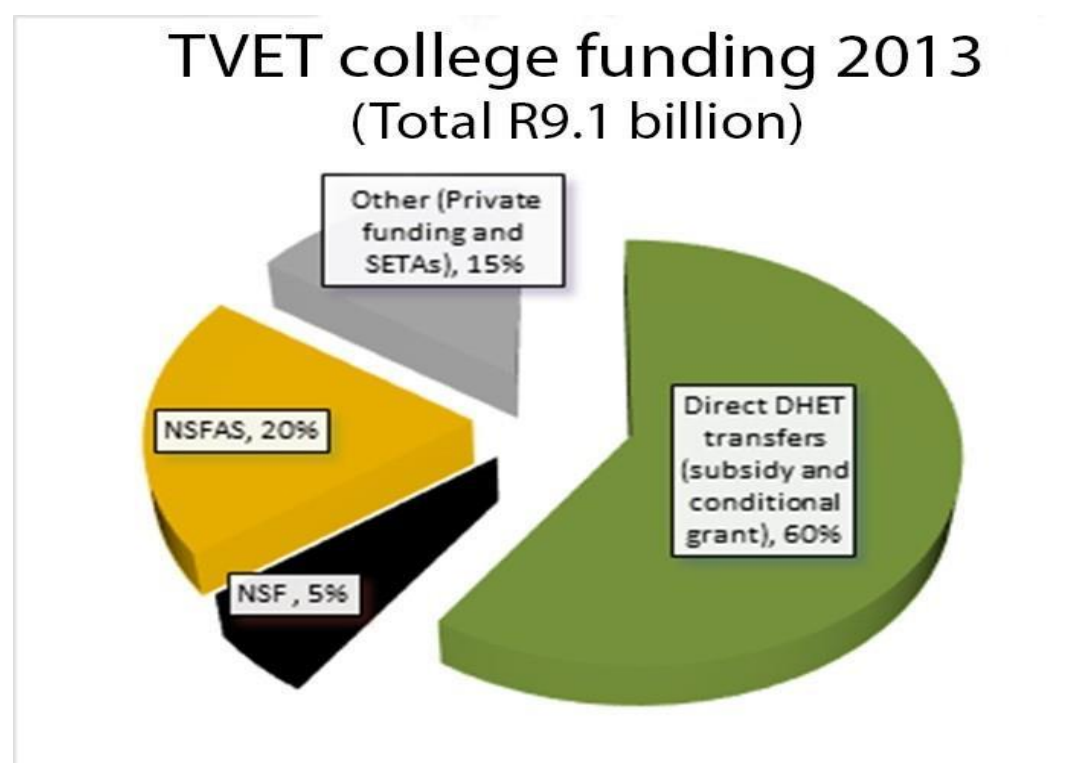


FIGURE 4.2 TVET College Funding 2013 (Source: DNA Economics, 2015)

The budget for public VE colleges has indeed grown considerably in recent years. Figure 4.3 below shows the 2010/2011-2013/2014 funds allocation.

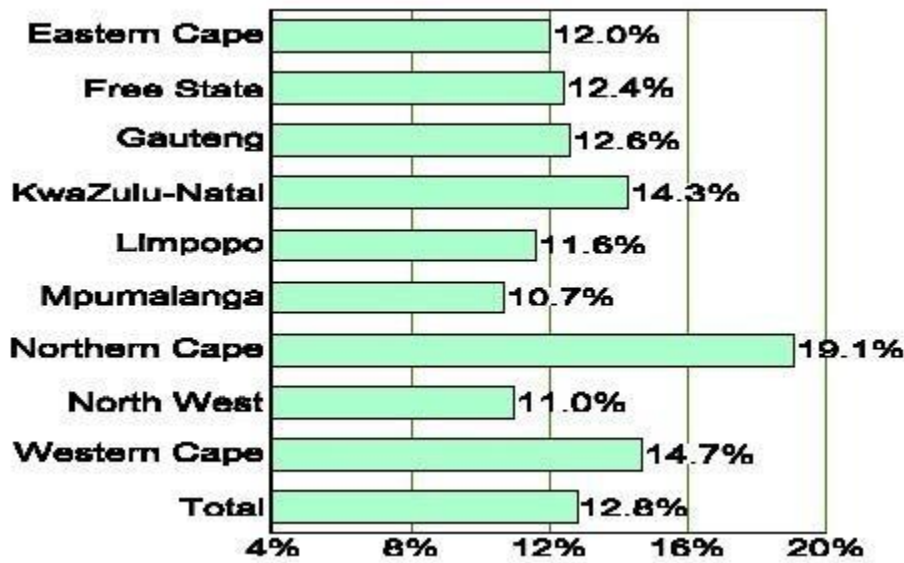


FIGURE 4.3 Average Annual Growth Rate of Training Funds Allocation 2013/2014 (Source: HEMIS Database 2013/2014)

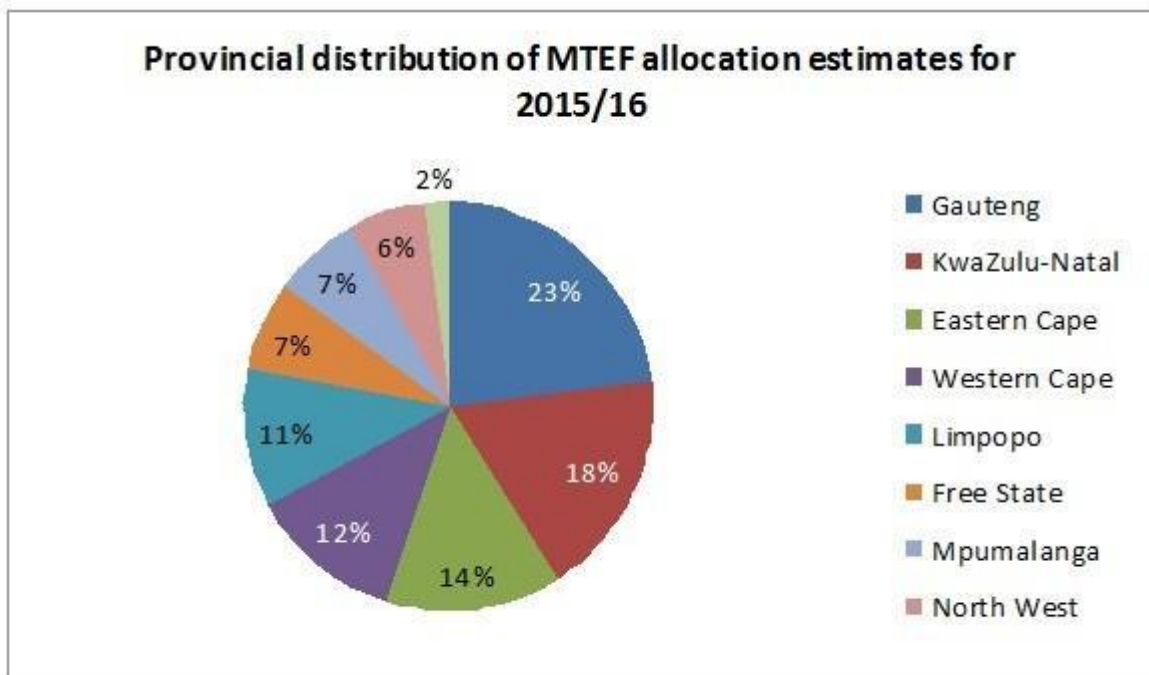


FIGURE 4.4 Provincial-Level Funding Allocation (Source: HEMIS Database 2015/2016)

The DHET intends to use a funding model that will address their quest to strengthen and diversify the TVET sector. Strategies of how to top up

government funding from student fees as well as from college's initiatives to raise funds, either in collaboration with the SETAs, businesses, commerce and the industries are needed. Field et al. (2014:24) indicate that through the levy grant system, students' employers contribute to the Skills Development Fund annually.

4.3.4 Quality assurance

There are three major VE QA authorities in South Africa, namely SAQA, the Council for Quality Assurance in General and Further Education and Training and the QCTOs which is responsible for education and training in the workplace. SAQA oversees the development and implementation of the NQF. The UMALUSI ensures that the education providers have the capacity to deliver and assess qualifications and learning programmes (DHET, 2016b). South Africa's National Plan for Further Education and Training (RSA, 2008) declared that VE institutions should have a monitoring and evaluation system to enable them to determine the success of the sector. Monitoring and evaluation is useful for tracking progress of a system, improving programme implementation, identifying gaps and measuring effectiveness of training.

According to the Higher Education Act 101 of 1997 and its regulations (DoE, 2002b) and amendments (DHET, 2016b), all legally operating Private Higher Education institution in South Africa require registration as private higher education institutions and registration of all programmes by DHET. In order to do so, all PHEIs need to accredit all their higher education learning programmes by the Council on Higher Education. In addition, all these programmes (qualifications) need to be recorded on the NQF with SAQA

In addition, a Sectorial Training Authority (SETA) is merely a, delegated accrediting authority of the trades and occupations and are no longer responsible for accrediting diploma qualifications (DHET, 2016a).

4.3.5 Vocational education curricula programmes in South Africa

4.3.5.1 National Certificate Vocational

The NCV qualification was introduced for the first time in 2007 (HRDC, 2007). According to Gewer (2013) the rationale behind the NCV curriculum was to provide school leavers with the necessary foundation to enter into the workplace and be easily trained into specialised mid-level occupations. This curriculum was intended to replace the N-programmes which were deemed to be outdated. The DoE envisaged that the NCV programmes address the issues of redress, articulation and responsiveness to the socio-economic backlog of the immediate skills in South Africa. The HRDC (2014a:17) indicated that the NCV was introduced to provide a general- vocational post-school qualification that could be delivered to a large mass of the young people.

General VE programmes are currently recognised as the NCV level 2 to level 4 programmes. The NCV programmes were developed under the auspices of the DHET and because the key funded mandatory programmes to be offered by TVET colleges since 2007 in various fields of the economic sector. The aim of this qualification is to enhance employment and self-employment and to enable access to higher

Originally meant for young people completing Grade 9 (White Paper, 2013), individuals who have completed Grades 9, 10,11 and 12 can enter a TVET College and begin at NCV level 2 (DHET, 2013). This means that those who have already completed a Matric, for example, are at the same level as someone with a Grade 9 and therefore have to redo certain subjects even though they have already passed them (DHET, 2013). This has brought unintended challenges to the lecturers and the students to cope in a multi-level classroom with students of different competency levels (HRDC, 2014). The pathways for the NCV programme can be illustrated in Figure 4.5 below.

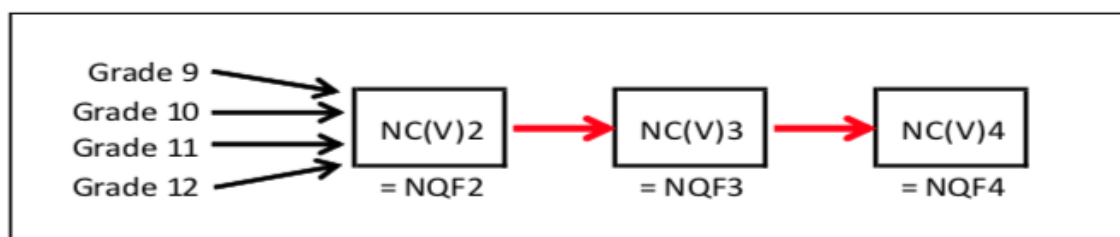


FIGURE 4.5: Current Pathways Into a TVET College for the NCV Programme (Duncan, 2014)

The NCV programme design lacks a compulsory workplace component that could enhance student employability. The poor certification and retention rate of the NCV level programmes during the past five years tarnished the image of the quality of programme delivery in TVET colleges (DHET, 2017). That led to many challenges, such as a lack of support from the industry for student workplace exposure and the reluctance of higher education institutions to enrol NCV Level 4 students (DHET, 2017).

According to HRDC (2014) the infrastructure and resources for workshops at the college campuses are inadequately resourced to inculcate the practical skills required by the industry. As a consequence, time, money and curriculum content impinge on the efficient and effective delivery of the mandate of the NCV programmes. The HRDC (2014) argues that few TVET college campuses have training and simulation centres where the students could gain the practical experience needed by the industry. The implication is that students qualify with a NCV level 4 with little or no work experience apart from that gained through the simulations (HRDC, 2014). Furthermore, the content of the NCV is perceived to be incongruent with the socio-economic needs of South Africa.

4.3.5.2 NATED Report 191 programmes

The Report 191 National Accredited Technical Education (NATED) N1 to N6 engineering studies, provide a variety of optional trade theory subjects such as electrical, mechanical and civil. These colleges-based engineering programmes were introduced from the early 1980s where students received theoretically based technical education. The DHET (2010d:26) reported that

“...N courses are fundamentally outdated and lagged behind in applied disciplinary knowledge”. Various authors, such as Stumph et al., (2009) point out that one of the key problems identified in the post-DHET establishment period is the scantiness of further learning opportunities for youth who leave school, either prematurely or with a notional certificate (Lolwana, 2010).

The N-programmes have part 1 and part 2 qualifications that are purely vocational (Field et al., 2014). Part 1 involves N1 to N3 and has an entry requirement of Grade 9. An N3 pass allows entry to Part 2, which is N4 to N6. Part 1 is underpinned by Competency-based Modularised Training, whereby students have to undergo intensive training at workshops and in the workplace. It is only on completion of the workplace training that students are allowed to write a trade test (HRDC, 2014). The duration of each level for Part 1 and 2 programmes is one semester. The entire programme can be completed in three years (Field et al. 2014) and is illustrated in Figure 4.6 below.

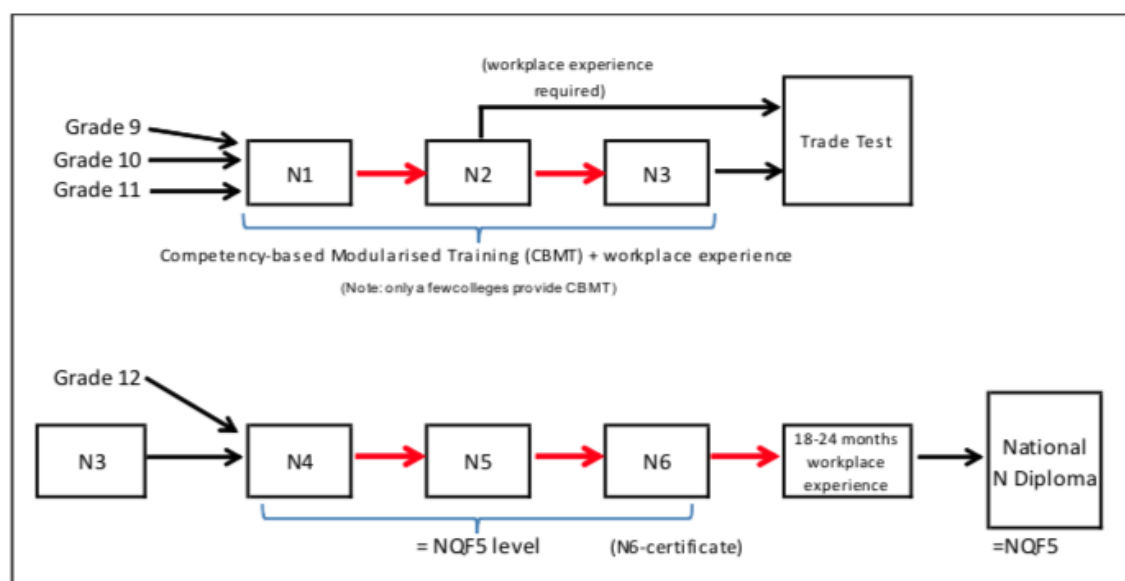


FIGURE 4.6 Current Pathways Into a TVET College for the N Programmes in Engineering Studies (Duncan, 2014)

Figure 4.6 above shows the entry into Parts 1 and 2 of the NATED programme whereby the workplace experience is made compulsory at N2 before a student can proceed to N3. Part 2 of the NATED Engineering

programme is only done after a student has passed Grade 12 N3. Unlike part 1, students who pass N6 obtain a National N Diploma after 18-24 months' workplace experience.

Individuals can enrol for Report 191 or NATED (N) programmes in Business and Services-related programmes starting at N4 level and have an entry requirement of Grade 12. Achievement of N6 results is an N6 Certificate (HRDC, 2014). Learners can then complete 18 months of relevant work experience which results in a National N Diploma (NQF level 5) (DHET, TVET guide, 2014). The current N-programmes pathways in TVET colleges can be illustrated as in figure 4.7.

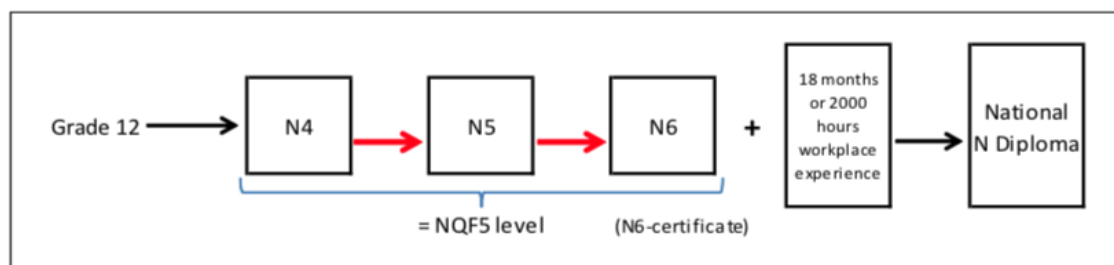


FIGURE 4.7 Current Pathways Into a College for the N Programmes in Business and Services-Related Programmes (Duncan, 2014)

In 2007, Part 1 of the NATED programmes, namely from N1 to N3, were earmarked to be replaced by the NCV as the programmes were being phased out (DHET, 2013). However, the NATED programmes are still being offered in some colleges and accordingly are being re-introduced into and reviewed in the TVET colleges (Papier et al., 2012).

4.3.5.3 Learnerships

Learnerships were instituted by the DoL to replace the apprenticeship system in South Africa. A learnership is a training programme that combines theory at a college or training centre with relevant on-the-job practice (Moll et al., 2005). The term learnership describes a particular model of workplace training that is used in South Africa.

Learnerships seek to offer people an occupationally directed qualification that incorporates institutional and workplace learning. It focuses on theoretical knowledge and skills for the workplace. Moll et al. (2005), further reiterated that the tripartite agreement between the employer, learner and training provider is intended to spell out the duties of all stakeholders involved, to ensure the quality of the training and to protect the interest of each party.

In South Africa, learnerships were introduced for the first time in the Skills Development Act of 1998. Unlike apprenticeships, which apply to selected trades. Learnerships apply to any occupation. Through learnerships, young people have the opportunity to experience a real workplace environment, which could contribute to preparation for jobs when they complete the programme.

4.3.5.4 Trade testing and recognition of prior learning

After the artisan-learner has successfully completed the occupational knowledge, practical and workplace learning, the Skills Development Act complete an external final summative assessment, also known as a trade test, before he or she can be certified as a qualified artisan. This process should be followed irrespective of the route or pathway of learning the learner used. Trade testing in South Africa is regulated by national Trade Test Regulations issued under Section 26D(5) of the Skills Development Act. The regulations are applicable to all Trade Test Centres whether they are operated by private, government or state-owned companies. Accreditation of these national, decentralised trade test centres is the responsibility of the Trades and Occupations Council before they are allowed to conduct national trade tests. Trade testing in South Africa is regulated by national Trade Test Regulations issued under the skills Development Act and is applicable to all Trade Testing centres whether publicly or privately operated). Bolton (2011) refers to RPL as the assessment of a learner's preceding learning and experience, regardless of how these were acquired, against the learning outcomes for an identified trade qualification. The DHET (DHET, 2013) sees RPL as vital importance in recognising the preceding learning of individuals who have become experienced and skilled in a specific technical sector over a number of years.

4.3.5.5 Vocational Education Programme Delivery

Based on the National Plan, VE in SA is predominantly offered through vocational centres with the qualifications ranging from levels 2-5 on the NQF. Notwithstanding vocational centres, tertiary institutions also provide VE in SA (RSA,2013; HRDC,2014). Similarly, the HRDC (2014) highlighted that vocational training should be accommodating and be able to address industry needs.

4.3.5.6 Technical Vocational Education and Training lecturer profile

Teacher training is a crucial aspect for any educational system to run smoothly to achieve the intended outcomes. Teachers (in this context, lecturers and trainers) are the backbone of efficient and effective quality education. A lecturer is defined as “any person who teaches, educates or trains other persons or who provides professional educational service at any college” (RSA, 2006:8).

In the South African educational context there is a dearth of literature with regard to teacher (lecturer) training in the VE sector. Lynch (1996) argues that a clearly focused conceptual framework that underpins vocational and technical teacher education needs to be developed. Furthermore, strong senses of professional identify with a body of knowledge related to vocational and technical teacher education and training needs to be forged in order to prepare college lecturers (Lynch, 1996).

Education statistics for 2015 indicate that there were almost 12,000 lecturers in the TVET colleges with a student ratio of 70:1 (DHET, 2015). The majority of lecturers have VE related qualifications, but not all of them are professionally qualified teachers. Older lecturers have, for many years worked as artisans, trainers and facilitators and bring to the sector vast industry and workplace experience. The majority of new lecturers come from the world of education rather than from the workplace, and often has either diploma or degree-level qualifications.

On the other hand, most VE college lecturers with trade and industry experience did not hold formal teaching qualifications, while some of the teaching staff did not have any practical work experience at all, which is a very unsatisfactory situation. This culminated in the majority of the lecturing staff being either under qualified or unqualified (ETDP-SETA, 2012a). The OECD Review found that 25% of the 9 000 TVET college lecturing staff in South Africa had no recognised tertiary qualifications, more than half had no industry experience, that only a small number of lecturers had artisan qualifications, mostly in the electrical and automotive trades (Field et al., 2014). This indicates that, in general, most TVET college lecturing staff members, who are responsible for teaching the courses in VE and/or trades in specific fields, were either unqualified or under qualified.

The introduction of the NCV curriculum in 2007 signalled the need to review the qualifications of TVET lecturers. However, the universities and teacher education colleges in South Africa did not have specific departments assigned to train TVET college lecturers.

4.3.5.7 Learner profiles

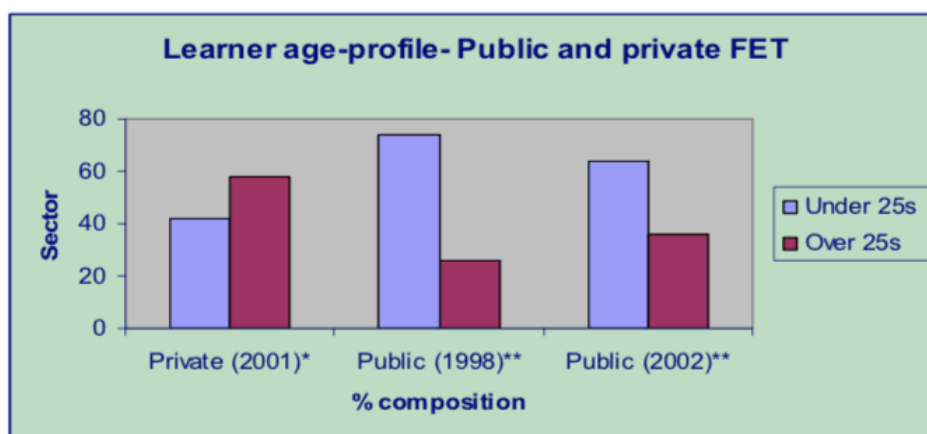
This section identifies the learner profile in terms of race, gender and age that can be illustrated as in table 4.1 and figure 4.8 below:

TABLE 4.1 Comparisons of Headcounts by Race Between Public Technical Colleges (2000) and Private FET Providers (2001) by %

		African	Indian	Coloured	White	Total
Public (1991)	TVET	15 (+4)*	7	7	67	100
Private (2001)*	TVET	73	6	11	10	100
Public (2002)**	TVET	73	2	8	17	100

Source: HSRC 2002; Powell & Hall 2004; and TVET Sector Review 1992: 4.23 (from HRD data warehouse 2003).

[* the original study did not have a racial breakdown for the 4% of learners in the homelands – we can assume that these were almost entirely African.]



Source: Private (HSRC 2002)* Private FET sector database; Public (Powell & Hall 2000)** Quantitative NBI data (adapted); Source: Public (Powell & Hall 2004)*** Quantitative Overview of the Further Education and Training College Sector April 2004 - A Sector in Transition (adapted)

FIGURE 4.8 Learner Age Profile (Public Technical Colleges - 1998/2002 and Private FET Colleges)

In analysing data from provinces since the mid-1990s it is clear that learner attendance has ranged from 258 967 in 1995 (258 967) up to 386,098 for 1996/97 and then 361 385 for 1997/1998 (Aitchison et al., 2000) and has declined to 306 378 in 2012 (DHET (2014:35) and 262 621 in 2014 (DHET, 2016: 86). The DHET's data for 2014 (DHET, 2016:86) shows the following information as provided in Table 4.3.

TABLE 4.2 Population of Learners in Public Institutions (Source: Statistics on Post-School Education and Training in South Africa, 2014)

Numbers of learners in public AET Centres by province and programme, 2014

Province	ABET level					FET level				Skills	Totals
	1	2	3	4	All	NQF 2 Grade 10	NQF 3 Grade 11	NQF 4 Grade 12	All		
Gauteng	2 130	2 249	3 896	22 397	30 672	0	687	62 150	62 837	2 773	96 282
Eastern Cape	2 518	4 578	4 953	20 931	32 980	78	20	7	105	559	33 644
Western Cape	2 471	1 731	2 004	10 631	16 837	45	64	11 218	11 327	749	28 913
KwaZulu-Natal	2 628	3 241	4 758	13 533	24 160	27	0	1 674	1 701	163	26 024
North West	1 800	2 756	3 513	11 668	19 737	0	0	1 507	1 507	1 042	22 286
Limpopo	711	1 527	1 179	18 093	21 510	0	0	0	0	0	21 510
Mpumalanga	1 464	4 192	4 188	10 700	20 544	24	83	367	474	0	21 018
Free State	255	709	1 522	6 090	8 576	2	1	3 291	3 294	14	11 884
Northern Cape	104	106	133	717	1 060	0	0	0	0	0	1 060
National	14 081	21 089	26 146	114 760	176 076	176	855	80 214	81 245	5 300	262 621
Percentage	5.4%	8.0%	10.0%	43.7%		0.1%	0.3%	30.5%		2.0%	100%

In 2015, there were 461 Post-School Education and Training Institutions (PSETs) in South Africa, of which 26 public Higher Education Institutions

(HEIs), 50 TVET colleges and nine Community Education and Training (CET) colleges. Total student enrolment in the public and private PSET sector in 2015 was 2,2 million (HEMIS database, 2016).

TABLE 4.3 Overview of Post-School Education and Training Institutions and Student Enrolment, 2015 (Source: 2015 HEMIS Database)

	HEIs			Colleges				TOTAL PSET
	Public	Private	Total	TVET	CET	Private	Total	
Number of institutions	26	124	150	50	9	252	311	461
Number of students enrolled	985 212	147 210	1 132 422	737 880	283 602	88 203*	1 109 685	2 242 107

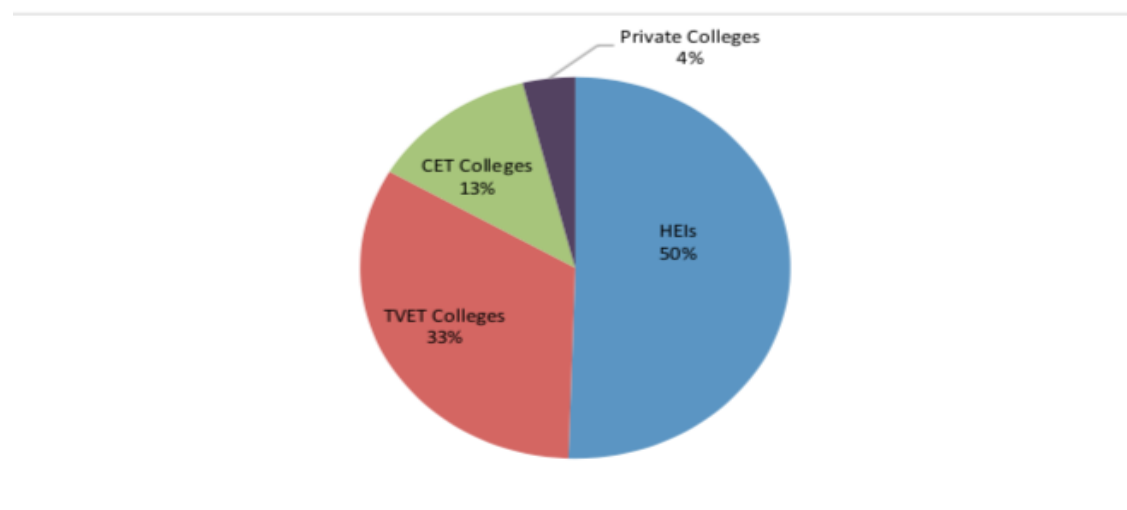


FIGURE 4.9 Percentage Distribution of Student Enrolments in Post-School Education and Training Institutions, 2015 (Source: Statistics on Post-School Education and Training in South Africa, 2015)

South Africa had 487 PSET institutions in 2016, of which the public sector comprised 26 HEIs, 50 TVET colleges and nine CET colleges. Almost 2,3 million students enrolled in public and private PSET institutions in 2016.

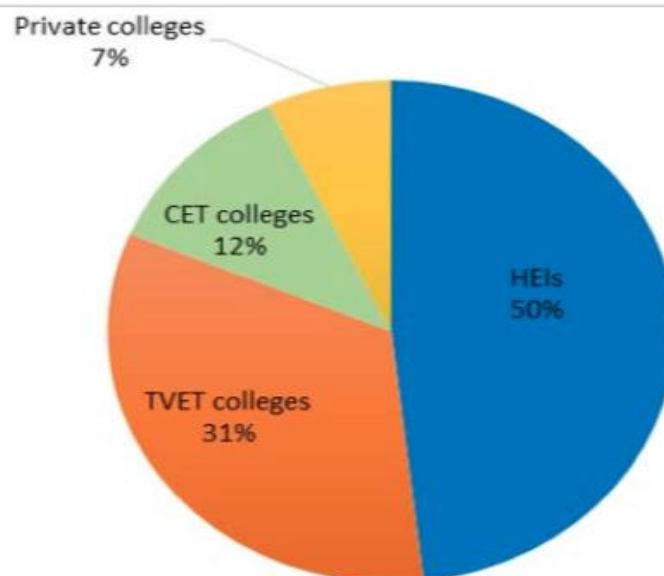


FIGURE 4.10 Percentage Distribution of Student Enrolments in Post-School Education and Training Institutions, 2016 (Source: Statistics on Post-School Education and Training in South Africa, 2016)

4.4 Challenges of vocational education in South Africa

The post-school VE system in South Africa is currently facing a daunting task. The sector struggles with issues of improving student access and retention, quality leadership and employability. According to Powell (2015), various scholars, have taken a more critical perspective based on the argument that the economy of South Africa is in crisis. The crisis has resulted in growing unemployment especially among the youth, meaning that skills and VE policies should focus more on a wider range of social concerns such as poverty, inequality, community development and social redress (Powell, 2015; Vally & Motala, 2014). McGrath (2012a) cited this as a weakness of VET theory in general and laments the way in which productivism approaches have taken centre stage.

This section addresses some of the key challenges currently faced by TVET colleges in South Africa.

4.4.1 Lack of coherence and articulation in the post-school system

The DHET (2012:13-14) has already indicated that the post-school education system does not operate in solidarity. Various players are involved in the South African VE landscape. Part of the government's plan in setting up VE institutions was to lessen the weight on the overburdened universities and tertiary institutions. The provision of post-school education through higher education, TVET and other training providers are disintegrated across different types and sites of provision (RSA, 2013b:324). According to Moodie (2008:138), it is the relations between institutions that matter the most not the structure or size of the institutions. The transfer of students between vocational and higher education, and between tiers of higher education, is one way of observing a system's internal dynamics. VE graduates have found it difficult to be enrolled in universities simply because the curriculum offered in VE institutions does not meet university entry requirements.

4.4.2 Curriculum challenges

Curricula pose a great challenge to achieving VE goals in South Africa. Part of non-employability is due to non-acceptance of the vocational programmes by industries who are the potential employers of the VE college product. The transition to a new NCV curriculum saw no consultation with industries (Rogers, 2003), hence faced challenges of acceptance from the beginning.

The current NCV curriculum has not managed to churn out artisans at an anticipated pace. The NCV course is done over three years and at the end, a student can be absorbed into an artisan-training programme. The whole process of producing an artisan is lengthened and the speedy production of artisans, as expected by government, is not comparable with the programme designed to meet this demand.

The NCV and Nated courses are two interweaving and competing programmes and qualifications. Some components of the NCV and Nated 1-3 courses are indistinguishable to elements of high school matric. This complication of competing qualifications has displayed the vocational sector puzzling and unattractive (ETDP SETA, 2012).

The NCV is supposed to provide opportunities for workplace experience but this aspect has been unsuccessful (Wedekind, 2013). VE providers have found it difficult to manage the NCV and Nated qualifications simultaneously and this has resulted in high costs and quality concerns (Allais, 2012).

4.4.3 Infrastructural challenges

The infrastructural development of the VE college sector in South Africa is defined by the earlier technical college design. This design allowed the provision of technical education for a limited student intake at any given point. Nonetheless, the design does not address the enlarged access envisaged by the DHET in the National Plan (DHET, 2013). Complicating this is the NCV programme currently implemented in the TVET colleges. NCV demands simulated work or practical learning at the TVET college campuses. Accordingly, with the changes that have occurred since the amalgamation of the 152 colleges to 50 multi-site TVET colleges, the infrastructure has not been rehabilitated to encourage practical learning (DHET, 2013; Field et al., 2014). Additionally, practical learning is very equipment-intensive and presents huge challenges to the vocational college sector.

4.4.4 Weak links between the vocational system and the labour market

As South Africa desires more skills, it also requires the appropriate package of skills for the labour market. Presently, vocational programmes in South Africa may be insufficiently responsive to labour market needs. This is seen through weak work-based learning. According to Reddy (2017), there is insufficient partnership between stakeholders in the vocational sectors and the industry. A large proportion of vocational graduates find employment elsewhere and not in their specialist areas (Kahn, 2017). This points to a lack of collaboration between vocational system and the industry. The weak link leaves the vocational system less equipped to respond to the requirements of employers and less able to equip students with appropriate competencies, leading to skills mismatch.

4.4.5 Mixed ability classes

The inception of NCV resulted in the challenge of mixed ability classes. To

enter an NCV programme as per DHET (2012) requirements, one needs Grade 9. Nevertheless, NCV programmes have absorbed a pooling of students who have completed Grade 9, dropouts from Grades 10 to 12 and matric graduates. The majority of students enrolled in VE colleges are mainly students who have either passed or failed Grade 12 (Taylor, 2012). Students who have excelled in Grade 12 usually drop out of the vocational institutions as soon as they are employed or study for an alternative qualification in higher education. This, Taylor (2012) argues, represents a poor return on a major investment in student funding. The throughput rate is also affected.

4.4.6 Quality of teaching practitioners

Some lecturers in vocational institutions lack the appropriate skills and qualifications. According to Papier (2014), up to 25% of lecturers in vocational institutions currently lack teaching qualifications and more than half have no practical work experience. This handicap in unqualified staff poses a great challenge to quality teaching in vocational institutions and has led to teachers with narrow pedagogical knowledge and insubstantial workplace experience.

4.4.7 Public perceptions of the vocational education sector

Public perception in respect of VE has not been encouraging students to make a vocational career choice (Powell, 2015). Vocational colleges are viewed as a dead end and regarded as second-class educational institutions. The public and even parents consider the VE track as fit for only the academically less endowed. This perception has been fuelled by the low academic requirements for enrolment in VE courses and the narrow prospects for further education and professional development.

4.4.8 Weak monitoring and evaluation

Current NCV and Nated programmes are often not designed to meet projected labour demands. The emphasis appears to be on helping the unemployed to find jobs. This situation, as highlighted by Reddy (2017), has resulted in many vocational graduates not finding jobs or finding themselves in jobs for which they have had no previous training. Non-targeted skills

development is one major challenge to VE in South Africa. Training institutions also do not track the employment destination of their graduates.

4.5 Conclusion

The main objective of this chapter was to define and properly articulate the key features of VE in South Africa. The challenges to VE were also discussed. These challenges included, on the one hand, chronic unemployment and labour market and skills mismatch, calls for an improvement in the relevance of education and training to the world of work. As reported by the United Nations Development Programme (2011), one of the vital aspects of VE education still remains to produce a workforce which is skilful and able to gain returns on the education and the overall economy when students are in their careers. Therefore, the education system must be able to understand the needs and necessities of the economy and prepare learners for their economic lives.

However, VE in South Africa has not fully focused its relevance on the requirements of the labour market. Even though the South African government has paid much attention to this sector through various initiatives, the outcomes have not been remarkable. The system still faces several challenges, such as the quality of institutions and a lack of linkages between VE providers and industries, which are still major problems.

The following chapter will focus on the summary, findings and recommendations of the study.

CHAPTER 5

VOCATIONAL EDUCATION IN SOUTH AFRICA, INDIA AND THE UNITED ARAB EMIRATES: COMPARISONS AND LESSONS TO BE LEARNT

5.1 Introduction

The three previous chapters have highlighted the nature of VE provisioning in India, the UAE and South Africa. This chapter proceeds to compare the VE practices in the three countries and to evaluate these practices against the generally accepted characteristics of VE in order to identify viable guidelines for the development of VE in South Africa. The comparative analysis will attempt to employ explanatory and descriptive approaches in order to provide valuable insights into the nature of VE in the three countries.

The purpose of this chapter is to understand through comparison how India, the UAE and South Africa implement their VE system. In other words, the chapter will highlight the similarities and differences that exist in the VE programmes of the mentioned three countries and the lessons that South Africa, India and UAE can respectively learn from VE practices of each other. Effective or emerging practices across the three countries will be shared as well as drawing on developed states' experiences. The analytical process of comparison will be done while considering some of the following components. Components under analysis will include internationally accepted features of VE, VE practices in the three countries, categories that underpins this study will include amongst them philosophy, curriculum, student assessment, aims, governance and financing.

This chapter is divided into three sections. The first section provides a comparative outline of the ways VE is practiced in the three countries by relating it to the internationally accepted features of VE. The second section, in-order to identify lessons for South Africa, will synthesise the comparison on

VE practices in India, UAE and South Africa with reference to the aims, philosophy, governance, curriculum, QA, funding, goals and vision, training of staff and the challenges to VE. The third section in effect constitutes the findings of the study, which include the outcomes of the comparison between the differences in approaches to VE in the three countries at post school level so that some lessons can be identified for South Africa. Lastly follows a summary of the chapter and an indication on what the next chapter will hold is given.

5.2 International key features of vocational education

Globally, VE, which is delivered by different institutions, is training characterised by a hands-on approach and which provides accredited training to acquired job related and technical skills. As outlined in Chapter 2.2, VE is a kind of education and training aimed at supporting the students to prepare themselves to be employed in a commercial or technical field. It occupies a central place in social, economic and education policies throughout the world (see par. 1.3.1). With VE, training consists of modules, which include the overall sets of competencies (knowledge, skills and attitudes) required for a qualification.

As described in the literature review, selected sections of VE in countries such as China, Germany or Finland will be referred to, in order to give an international reference to VE practices. Skills policy in China has had a supply-side focus, with the underpinning rationale being to raise skills levels as a means to achieve higher levels of employment, productivity and prosperity (see par. 1.4.1). In China, similarly to India, South Africa and the UAE, VE is delivered through a range of organisations and institutions in the VE sector. In India and other countries, VE is provided on a part-time and full-time basis.

Recent global policies on VE have become centred mostly on CBT (see par. 2.4.5). In the reviewed countries (India, South Africa and the UAE) there is a

similarity in increasing focus on competency-based education and training approaches for VE provision, workplace orientation for teachers and students, as well as capacity building interventions for teachers (see par. 3.2.4.5; 3.3.3.5 and 4.3.5.2). In the UAE for instance emphasis has been placed on the introduction of CBT and workplace experiential learning for students at all levels of vocational training (see par 3.3.3.5). Similarly, South Africa adopts a competency-based vocational system approach, which pays attention to the growth of expertise and proficiency necessary for performing a task after completing a study (see par 4.3.5.2). A crucial practical element of VE in the UAE unlike in India and South Africa is work placement. This involves students from vocational centres being attached at various workplaces for more practical training. (see par. 3.3.4 and 3.3.5).

VE, as an organised form of specific education, is designed to assist individuals to prepare themselves for a specialised occupation (see par. 2.1) where learners learn more by doing rather than reading or hearing. The aims of VE as noted for India, South Africa and UAE, vary from country to country but the bottom line is to support learners to equip themselves with vocational competencies and prepare school leavers with an easy school to work transition (see par. 1.2; 2.4.2; 2.5.2.3 and 4.3.1). For South Africa, India and UAE, VE provides a unique platform for students who aspire to succeed but experience challenges with academic studies and as a vehicle for the acquisition of competencies required for employment, technological and economic development and sustainability (see par 4.3.1; 3.2.1; 3.3.3.1). These aims however have not yielded much success in India and South Africa (see par. 3.2.5 and 4.4) unlike with UAE where VE has had some positives results (see par 3.3.5).

As cited in chapters 3 and 4 there is remarkable resemblance regarding the policies that govern the VE system in India, South Africa and the UAE. VE policies in the countries have been comprehensively designed considering all aspects of VET, VE at high school and higher institutions, vocational training centres, adult training and re-training as well as apprenticeship programmes.

Specifically in India, VE policies explicitly mentions that vocational training includes pre-employment training and apprenticeship training and is imparted through skilled worker schools, employment training centres and non-governmental vocational training organisations (see par. 3.2.3; 3.2.5). Elsewhere in South Africa, unlike UAE or India, learnerships constitute vocational training (see par. 4.3.5.3).

However, some shortcomings in the vocational systems of the three nations under study are common. Gaps do exist between supply and demand in VE that adequately provided in required manpower to meet the needs of the economies. Defects specifically in VE administration and management systems at macro and micro levels, shortage of teaching personnel and unsatisfactory teaching quality exist across the VE sectors of the three countries (see par. 3.2.5; 3.3.4 and 4.4).

5.3 Comparing particular vocational education practices

5.3.1 Introduction

This section features a comparative analysis on VE practices in India, South Africa and the UAE. Areas of likeness between the three nations include governance, philosophy, aims, QA systems, curricula, challenges and industry links. Notable areas of differences are funding modalities and the training of staff.

5.3.2 Aims and philosophy

VE in UAE is aimed at providing VE particularly for the Emiratis. The UAE government is striving towards equipping its citizens with expertise and proficiency through the provision of a robust VE system. The UAE initiative to equip its citizens has received support from companies that are willing to provide vocational training to students across the UAE (see par. 3.3.3.1). Likewise, VE in India and South Africa focuses on specific trades to engage in specific occupational activities. In addition, provision of VE in South Africa is

to respond to human resource needs of the country regarding personal, social, and economic development (see par. 3.2.4.1 and 4.3.1).

Similarly, in the three countries (India, South Africa, UAE), VE is perceived to support learners to acquire those competencies that would lay a foundation for higher education and develop lifelong learners (see par. 4.3.1; 4.3.6; 2.5.2.6). The philosophical principles behind VE in the three nations are basically similar. All three nations view VE along the lines of integrating theory and practice and to assist learners to prepare themselves for an effective 'school to work' transition (see par. 2.4.2). However philosophically, for South Africa, VE is also regard as a means of poverty alleviation (see par. 4.3.7).

5.3.3 Goals and vision

The content of VE policies in the three countries are the same, namely that it includes the aspects involving the study of technologies and related sciences, acquisition of practical skills and the understanding of knowledge relating to occupations in various sectors of economic and social life (see par 3.2.4.1; 3.3.2.1 and 4.3.1). VE goals as indicated in the policies of India, South Africa and UAE include equipping individuals with knowledge, skills and attitudes necessary for employment and job creation, the support to the development of a qualified workforce responsive to the skills needs of the labour market and assisting individuals to prepare themselves for further education and lifelong learning (see par. 1.5.1; 1.5.2 and 1.5.3).

The three countries display evidence of policy development and legislation in recognition of VE as a key driver that addresses skills development and unemployment. However, fragmentation of VE systems across national departments in India and South Africa is a common feature (see par.3.2.2 and 4.4.2). South Africa created a government ministry, the DHET, which includes adult education, VE workplace training and higher education whereas in India VE is offered by up to 15 different ministries and departments (see par. 3.2.2).

5.3.4 Governance

VE is concentrated centrally in all the three countries. Governance of public VE institutions in the three nations is centrally and nationally regulated while their respective councils govern private VE institutions. The governments in these countries make decisions pertaining to the way VE is administered and which programmes are offered to the citizens, hence it is made a state concern (see par. 3.2.4.3).

In India, unlike South Africa and the UAE, various ministries are responsible for VE (see par. 3.2.4.3). The governments of India, South Africa and the UAE, through their respective ministries all have the primary role to develop policies and set norms and standards. The governance of VE in India, UAE and South Africa is based on principles of co-operative governance, where public institutions are governed by the state and private institutions controlled by private individuals (see par. 3.2.4.3; 3.3.3.4 and 4.3.2). In the UAE, the VE system is governed at high school and tertiary levels in a decentralised manner through various government institutions spread across the Emirates (par. 3.3.3.4).

The engagement of partners in the management and provision of VE, for example, in South Africa can provide a holistic educational view on the nurturing of students to become better citizens (see par. 4.3.2). Besides the DHET, other stakeholders on board VE governance in South Africa include SETAs and individuals (see par. 4.3.2). It has been highlighted that insufficient funding of VET leads to severe challenges and governance (see par. 1.5.2)

5.3.5 Curricula

The curricula in the countries covered in the study, namely India, South Africa and UAE, have some similarity. They all focus on the acquisition of competencies that are being assessed by means of competency-based inspection on hands-on skills proficiency (see par. 3.2.4.2; 3.3.3.5 and 4.3.5;). Industry in UAE, unlike India and South Africa, is strongly involved in

facilitating work placement visits for VE students. This industry-institution partnership has strengthened theory to practice learning in UAE. In addition, industry in the UAE, unlike India and South Africa, is an important partner in deciding the content to be taught in VE institutions and how it should be taught. To a large extent, this partnership prevents the mismatch between what the industry expects and what learners learn in VE institutions. The UAE vocational curriculum sector is more focused on high-tech expertise and unlike India and South Africa, the VET sector in UAE has managed to attract many learners (see par. 3.3.2.1).

The VE curricula in India, South Africa and UAE comprise of theory and practice at all levels, although the level of integration of theory into practical work varies between institutions in the different countries (see par. 3.3.4 and 4.3.5.1). In the UAE, students at all levels study the theory and practice of various occupations and this combination of theoretical and practical application in workplace makes VE a successful model in UAE as compared to India and South Africa (see par.3.3.5). This is different in India and South Africa where students in vocational centres study much theory with little or no practical application (see par. 4.3.5.2). However, in South Africa, certain vocational programmes outside formal schooling have a strong practical base (see par. 4.3.5.3 and 4.3.5.5).

There are some similarities regarding content preparation in the three countries. VE Curriculum in UAE is defined collectively by the government and industry (see par. 3.3.4), however the government has the bigger say. This is contrasting to South Africa where the government prepares and administers the VE. Industry is a mere recipient of what the government prepares (see par. 4.4.1; 4.4.2; 4.4.3). The aligning of VE curriculum with industry needs in the UAE has significantly improved the employment prospects of local graduates, unlike in South Africa and India where graduates from vocational institutions are reported to be unemployable.

5.3.6 Quality assurance

India, South Africa and UAE have a common viewpoint with regards to the tracking and analysis of VE structures. The three countries have similar vocational qualifications frameworks, which are meant to ensure quality standards are adhered to in education and training (see par. 3.2.4.5; 3.3.5.3 and 4.3.4). The various qualification frameworks include NSQF in India; NQA, VETAC and the ACTVET in UAE and SAQA, ETQA and QCTOs in South Africa. These qualification frameworks coordinate qualifications issued by different bodies, control the quality of VE providers, does the accreditation of VE providers, enables RPL and ensures that industry focused VE system is in place in institutions (see par. 3.2.4.5; 3.3.5.3 and 4.3.4). However, the presence of the qualifications framework in South Africa for example has not helped much. The quality and relevancy of VE programmes in South Africa shows a sense of failure simply because some programmes such as NATED are out-dated and have lost the important link with the labour market (see par. 4.3.5.2; 4.3.4 and 4.4.4).

5.3.7 Funding

Funding of VE in India, South Africa and UAE is generally similar. Funding of VE in the three countries is through the government, industry, and individual contributions, training fees, levies and loans (see par. 3.2.4.4; 3.3.5.4 and 4.3.3). In South Africa government subsidies represent a larger portion of the expenses of the full programme and students from low-income families receive state grants. In the UAE, the policy indicates that VE is state responsibility and is provided free of cost to locals (see par. 1.5.3) and hence the state continues to be the main source of financing VE.

In India, South Africa and UAE, private vocational institutions are self-funding, however the public vocational institutions receive government funding (see par. 4.3.3; 3.3.5.4; 3.2.4.4). In all the three countries, there are no mechanisms available to private VE institutions to access public funding (see par. 4.4.3).

5.3.8 Training of staff and Recruitment

The training of trainers for VE is an important dimension of the quality of any VE system, because the efficient realisation of VE outcomes crucially depends on the quality training by vocational teachers and trainers. This aspect is carefully designed in the UAE VE system, which requires the training of vocational trainers to be at par with industry needs and new technologies (see par.3.3.5.2).

The UAE unlike India or South Africa recruits highly qualified personnel who are attracted by tax-free packages. The qualified instructors are 98% expatriates and are expected to have academic and verified employment experience in specialised fields of technical expertise (see par 3.3.5.2). This is in contrast to the Indian and South African situation, where in most of the institutions, vocational trainers are mere college graduates (see par. 4.4.6 and 4.3.5.6). The majority of instructors in South Africa and India has VE qualifications but lack the professional status. India has no career path for one to become a vocational instructor (see par. 3.2.4.6) and this is reported to be a major obstacle to growth of VE in the country.

5.3.9 Challenges

Common challenges still remain in the VE systems across the three countries, India, South Africa and the UAE. In the three countries, VE is still burdened by negative stereotyping, though it is much more pronounced in India and South Africa unlike in the UAE (see par. 3.2.5 and 4.4). Despite some negative perceptions of its VE system, the UAE has managed to package its VE curricula to be more attractive to its citizens and the industry (see par.3.3.2.1).

Challenges for India and South Africa are similar and these include, for example, unfavourable interpretation of VE by communities and industry, demand supply mismatch, shortcomings in addressing skills shortages in the economy and out-dated curriculum with little funding (see par. 3.3.6 and 4.4). VE provision in India and South Africa is generally perceived to be a second

choice option for school leavers and parents in relation to general education that provides routes to universities.

In South Africa, unlike the UAE, articulation between educational provisioning and VE on the different levels is a problem (see par. 4.4.2). According to the DHET, students in possession of VE qualifications, such as NCV, experience challenges progressing to universities as these higher education institutions cannot easily accommodate vocational qualifications (see par. 4.4.2).

All three countries appreciate the partnership linking employers to VE providers (see par. 4.4.2). Vocational institutions in the three countries have the responsibility for setting up linkages with the industry; however attaching learners to respective industries for practical application still remains a challenge for India and South Africa, while it is flourishing in the UAE.

5.4 Guidelines for South Africa

This section of the chapter will draw some guidelines that can be considered for VE in South Africa. However, it is important to explore the VE sector with further research projects so that proper solutions can be arrived at.

5.4.1 Strengthening the competency-based education system

South Africa should adopt a more competency-based curriculum focusing on the relevant competencies to drive its economy. A competency-based curriculum will foster quality and relevance in VE by integrating theory with real applicable practice opportunities. This is the case with UAE, where competency-based VE has kept industries running with continuous supply of competent labour (see par. 3.3.5.6). The DHET South Africa should make it mandatory for students to complete a work placement period before graduating from a VE institution.

5.4.2 Ensure relevant funding mechanisms

It is crucial for the South African government to ensure that adequate funding is made available for VE. There however has been an increase on budget allocation for VE for the past years (see par. 4.3.3; fig. 4.2; 4.3 and 4.4). Adequate funding of VE in South Africa is considered crucial for the delivery of high quality VE programmes. UAE and India have increased funding for VE through high private sector engagement (see par. 3.2.4.4 and 3.3.5.4)

5.4.3 Increase the quantity and quality of training vocational educational trainers

In South Africa most VE teachers have only academic qualifications and lack the necessary professional qualifications (see par. 4.4.6). An important aspect for South Africa is the training of teachers and instructors at vocational schools and institutions to be at par with new technologies and needs of modern industry. Training of vocational trainers is an important dimension of the VE system. The efficiency of VET outcomes crucially depends on the training of vocational teachers and trainers.

5.4.4 Increase the level curriculum responsiveness to local market needs

South Africa needs to provide its citizens with relevant skills necessary for employment, poverty alleviation, social, economic and national development through a responsive VE curriculum. Curriculum activities should create learning scenarios that connect theory and application in real practice see par. 4.4.2; 4.3.5; 3.2.5; 3.3.7). The curricula should ensure vertical and horizontal articulation and prevent dead ends in VE programmes.

5.4.5 Industry partnership

South Africa should put emphasis on linkages between industries and VE institutions. In the UAE as in India, enterprises are strongly encouraged to be more involved in VE not only in financing and infrastructure provisioning, but also in developing the education and training system. In order to overcome these various market failures – namely mismatching of required competencies

with training provision and underinvestment in training, the private sector must partner with VE institutions to support the curriculum development process (see par. 4.4.4; 3.2.5; 3.3.7). Public providers of education and training must also better consider how to deliver those skills, which are crucial to all private enterprise.

5.4.6 Model vocational educational institutions

Secondary Technical Schools, Petroleum Institute, ADNOC, Applied Institute of Technology and ADVETI are typical school and tertiary models of VE institutions that the UAE developed (see par. 1.5.3). Elsewhere India has ITIs and ITCs as models of VE institutions (see par. 1.5.1 and 3.2.4.2). South Africa can prioritise investment in VE through setting up model VE institutions as centres of VE excellence.

5.5 Conclusion

The areas of similarity in VE practices between India, South Africa and UAE include governance, curriculum, philosophical and funding. Meanwhile areas of significant differences included partnership with industry, where it was noted that UAE has a greater partnership with industry than India or South Africa.

The findings showed that South Africa's VE sector has not been properly addressed compared to India and UAE. This is because it is the government that saddles with the responsibility of setting up vocational institutions and curriculum, which to a larger extent is not embraced by many stakeholders.

The UAE unlike India or South Africa has made significant efforts to recognise its VE system to face the challenges of the market economy. The curriculum run by vocational colleges in South Africa is determined by the government, whereas in some other countries; it is the government and private sector that depicts the curriculum. South Africa has no motivating factors put in place for the beneficiaries of the VE. Even though some countries have put in place

proper channels of ensuring that their citizens embrace VE, South Africa is still lagging.

In the next chapter, the researcher will summarise the study in light of the research questions and aims. The researcher will also provide recommendations for practice and areas of future research.

CHAPTER 6**CONCLUSION AND RECOMMENDATIONS****6.1 Introduction**

The previous chapter presented a comparative account on VE in India, South Africa and UAE, and a discourse of the findings based on the following: (a) Internationally accepted features of VE; (b) VE practices in India, South Africa and UAE and (c) lessons for developing sustainable guideline for VE in South Africa. This closing section will give an outline of previous sections, summing up the findings of the study with the aim of answering questions that ushered the study. The significance of this study is also highlighted based on the findings of the study.

The need to provide individuals with competencies necessary for employment, poverty alleviation, social, economic and national development has renewed the demand for a responsive VE system. VE has been acknowledged as being able to provide competencies for the world of work and nation building with a focus on practical-directed activities that are related to specific trades or occupation.

In order to deeply and thoroughly understand the nature of VE (see par.1.4), it was of utmost importance to investigate VE provision in the chosen national education systems. It was also important to compare the realisation of VE in different settings in order to learn applicable lessons that can be used to improve VE. VE in India, South Africa and the UAE is controlled by the state, though governed by public and private institutions. Various stakeholders, that include government, private and public enterprises and instructors are involved in the VE system. It was specified that VE had been implemented at various levels in different countries in private and public sectors.

6.2 Responding to research questions and aims

6.2.1 The context

The basic nature of VE boils down to a key element of lifelong learning systems equipping people with competencies required for the labour market. VE in South Africa is not structured to fully provide the needs of the labour market (see par.4.4). The following research question and subquestions were, therefore, formulated to solve some of the shortcomings of VE in South Africa. The following four questions guided this study:

- What is the internationally accepted feature of VE?
- What is the nature of VE in India, South Africa and the UAE regarding aims, curriculum, QA, staffing, governance and funding?
- What lessons can be learnt from VE practices in the three countries?
- How can these lessons be informed and implemented in a practical and sustainable manner in the unique challenges of VE in South Africa?

From these questions, the following research aims and objectives were developed (see par 1.6):

- To describe the internationally accepted features of VE.
- To identify and describe the VE practices in the three countries regarding aims, curriculum, qualifications, institutions and levels in India, UAE and South Africa.
- To identify and compare the lessons that can be learned from VE in the three countries.
- To discuss how the identified lessons can be adopted for implementation in the South African VE sector.

To reach these aims, this research report was structured in a particular manner. Chapter 1 sets out the generic basis on which the study is conducted in terms of purpose, rationale and background. It also outlined the questions and aims that guided the study and provided an overview of VE in India, South Africa and UAE. Chapter 2 outlined the internationally accepted features of VE. Chapter 3 presented the analyses of policies and practices

that relate to the provision of VE in India and UAE. Chapter 4 was centered on how VE in South Africa is generated and the discussion of findings was highlighted in chapter 5. The research took the qualitative approach and the following research methods were applied, namely secondary document analysis.

The research aims were reached in the following manner:

6.2.2 The internationally accepted characteristics of vocational education (see par. 1.4)

VE was identified as a kind of practical version of education, which imparts learners with vital occupational competencies for life. It focuses more on the application or know-how rather than just theory, engaging learners through contextual learning and training focused on building skills accompanied with relevant attitudes or values specific to an occupation or career field.

The common philosophies for VE included competencies for the world of work, skilling workers and the blending of theory into practice. Overall, it is a combination and integration of theory and practical learning, which involves a large number of careers and industry trades. It is further emphasised that VE supports alleviation of unemployment as it assists in increasing the required competencies of the youth in meeting the requirements for employment (see par. 2.2).

VE training consists of separate units, which together make up the overall set of competencies required for a qualification (see par. 2.4.5; 2.4.8) The VE training is provided to meet a set of performance standards and each individual student must be able to express the ability to an acceptable level in order to be determined as competent. Upon completion, a trade licence is issued for one to freely practise the trade.

A widely accepted practice is that registered training providers offer courses for VE. Qualifications in VE range from certificate level to higher Diplomas,

depending upon the complexity and duration of the programme and course. Some higher institutions offer degrees in vocational studies. Internationally, the governance of VE can be centralised to the state or decentralized to private and public ownership of institutions. Adequate funding of VE is always considered as of primary importance for the delivery of high quality VE programmes. The state, which in most cases initiates VE policies and makes important decisions, was recognised as the major financier for VE in many countries.

6.2.3 The nature of vocational education in India, South Africa and the United Arab Emirates

6.2.3.1 Vocational education in India

India is among the countries with the lowest proportion of trained youth in the world and worse still VE in India has received very little funding. A persistent skills gap in the Indian labour market has been a serious cause for concern for policymakers and industrialists. Graduates who have received VE also lack the skills required in labour market (see par. 3.2.4). The employability of VE graduates in India, therefore, continues to be a major concern.

The VE policies for India, South Africa and UAE are related in motive through diverge in manifestation. In India, VE is aimed at providing lifelong learning opportunities and is offered on full-time and part-time bases (see par.1.5.1). VE in India refers to vocational courses offered in schools. Vocational training falls outside the formal schooling cycle and is offered in ITCs, CTs and apprenticeship training, leading to craftsmen qualifications, which are usually a dead end in India (see par. 3.2.4).

The three national policies on VE in India, South Africa and the UAE appreciate the benefits of partnership between employers and VE institutions. The benefits from partnership between VE institutions and employers include the attachment of students in workplaces and improved opportunity for employment when students complete their programmes.

6.2.3.2 Vocational education in South Africa

The philosophical principle guarding VE provision in South Africa includes equity in VE access, supporting individuals to become competent nationals and provision of a respective VE system that encourages the merging of theory and practice (see par.4.3.1). VE in South Africa is aimed at providing the requirements of different communities to include industries, by formulating plans of action that address the needs of various communities.

Governance of VE in South Africa, India and the UAE is based on the principle of cooperative government, where all stakeholders are involved (see par. 3.2.4; 4.3.1). Governance of private institutions falls under their respective directors who must ensure that all requirements necessary for the provision of quality VE are appropriately in place and implemented. All public institutions are governed by the state and receive state funding.

QA for VE is monitored by the various quality and control checks at various points. In the UAE, the Ministry of Education through its various departments such as the ACTVET does quality control for vocational programmes (see par. 4.3.4). Similarly in South Africa, departments such as Umalusi are responsible for quality checking (see par. 4.3.4). In India, the National Skills Qualification Framework harmonises qualifications issued by different bodies in the skilling landscape (see par. 4.3.4).

6.2.3.3 Vocational education in the United Arab Emirates

VE in the UAE is centralised, hence it is mostly offered by state institutions. There are private and public VE providers in the UAE. The state initiates policies, has a role to play in national major decision-making and acts as the main financier for public VE institutions. VE in the UAE is offered from high school level to tertiary level (see par 3.3.2). A crucial element of VE in the UAE is the on-site training of students. On-site training involves employees training at the workplace and at the same time doing actual job. A qualified employee will supervise the employee.

VE in the UAE is a great platform for the locals who aspire to succeed but experience challenges with academic studies. It is offered in high schools, colleges and other tertiary institutions. The system is aimed at empowering UAE locals with the relevant skills for job opportunities and lifelong learning. A requirement of UAE, VE is that students complete a work placement period as part of the study programme.

There is a degree of similarity in the way VE is funded in India, South Africa and the UAE. The South African government financially supports VE through different channels. In India, the government admitted that they alone cannot fully fund VE and other players, such as employers, should also contribute toward vocational training.

6.2.4 Lessons that can be learned

This section highlights a number of broader issues that South Africa can use as lessons to strengthen its VE.

- Increase government spending on education and training- In doing so, the government needs to allocate resources between different VE institutions at different levels, and between regions.
- Strengthen strategic partnerships between VE colleges, employers and the SETAs- researcher found that there was a lack of collaboration between TVET colleges, employers and the SETAs. The increase in strengthening these partnerships will contribute towards the innovation at colleges.
- Future research studies should focus on the effectiveness of operations that are currently employed by the relevant stakeholders to enable innovation in VE colleges. Students who have successfully completed NCV programmes at Levels 2, 3 and 4 could contribute towards curriculum review by evaluating the curriculum.
- Improve information and analysis on VE and labour markets- There is a need to review VE system performance and undertake labour market analyses such as regular labour force surveys and tracer studies of graduates so as to avoid producing graduates who do not

match industry expectations. [SEP]

- Provide incentives to private TVET providers: The government should provide substantive support, to private providers who set up or expand VE institutions, and [SEP] to public and private providers who meet agreed quality and output targets in the local context. [SEP]
- Model VE Institutions- investment in VE through setting up of skills development institutions.
- Curriculum responsive to local market needs: This can be done through directly training the skills required for work. The industry-led evaluation of the curriculum will particularly help in forging sustainable partnerships between industry and institutions.

6.2.5 Recommendations

It is recommended that South Africa revisit its VE policies and ensure that relevant organisations such as manufacturing or processing are highly involved in the drafting of the VE curriculum. VE is based on a well-coordinated system where all relevant stakeholders are involved. In South Africa, such an institutionalised form of cooperation is missing.

The curriculum that was solely developed by the government without participation of employers is weak and lacks coordination, and under such conditions, it is difficult to create a competent manpower that meets the demand of the local industry. Stakeholders should include society and employers should be consulted in the development of the VE syllabus. Future research should periodically be conducted into the curriculum to keep abreast of technological and market changes. In addition, the delivery of VE programmes should be accommodating and accessible to all who might need the training.

Partnerships between the industry and vocational institutions should be enforced since involvement of both (the industry and the training institutions) was seen as crucial in delivering and implementing quality VE. Partnerships

allows for students to be involved with various workplaces and in that way encouraging students to apply theory to practice.

The adoption of the ITIs by employers as in India could be a manner to enhance public-private cooperation. Industry should be required as part of its corporate social responsibility to invest in education through associating with vocational institutions. In situations where vocational teachers have only academic qualifications the government is encouraged to incentivise the teachers to also get skills qualifications. In India, for ongoing professional development, teachers in vocational schools are required to undergo practical training in companies. The practical training at the companies equips the teachers with the latest technology and skills for evolving industry needs. VE institutions can also recruit company experts as part-time teachers for practical courses.

6.3 Conclusion

This study analysed and compared VE practices of India, South Africa and the UAE to determine similarities and differences and to draw working guidelines for VE in South Africa. VE has been viewed as having the capacity and potential to prepare learners with lifelong skills for employment and national development, focusing on the integration of theory teaching and practical learning. It was indicated that VE is offered in different institutions and at varying levels of study. Learners receive different qualifications depending on the level of study and the programme of study. The VE policies for India, South Africa and the UAE appear broadly similar with minimal differences in the interpretation and implementation of policy details.

TVET as a system has failed in India and South Africa, but has succeeded in the UAE. The system has been unsuccessful in achieving the goals of skilling workers and preparing students for employment. VE graduates in South Africa have not been able to secure employment as the skills acquired in vocational institutions are a mismatch for what employers expect. This has resulted in jobless graduates on the streets. Insufficient funding and a lack of training

materials have negatively affected the provision of VE in India and in South Africa. In addition, poor governance and a preconception of VE in India and South Africa have negatively affected the provisioning of VE in these countries.

Despite all the ills affecting VE in India, South Africa and UAE, policies in these three countries (India, South Africa, UAE) still consider VE as a system that can mitigate poverty from the masses and a tool for national development.

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ANNEXURE A
ETHICS APPROVAL



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**Research Ethics Committee of the Faculty of
Education (EduREC)**

Faculty of Education

Tel: 018 285 2078
Email: Jako.Olivier@nwu.ac.za

4 September 2019

Dear **Profs Hennie Steyn and Ewelina Niemczyk**

**PROOF THAT THE FOLLOWING STUDY DOES NOT REQUIRE ETHICAL
APPROVAL**

Study title: Vocational Education in India, South Africa and the United Arab Emirates. A comparative Study

Promoter: Prof Hennie Steyn

Co-promoter: Prof Ewelina Niemczyk

Student: A Marimo (studentnr 28210190)

Ethics number: NWU-01602-19-A2

On 21 August 2019 the Research Ethics Committee of the Faculty of Education (EduREC) reviewed the aforementioned study, as approved by the Faculty of Education M&D Programme Committee on 9 November 2017, after which it was confirmed that no ethical approval was required as this study does not involve any human participants or their data/information.

Yours sincerely

Prof JAK Olivier

Chairperson: Research Ethics Committee of the Faculty of Education (EduREC)


ANNEXURE B

LANGUAGE EDITOR'S CERTIFICATE

Christelle van der Colff t/a Applied Linguistics Emporium
BA, BA (Hons), MA

Editing Certificate

Date: 25 November 2019



I, Christelle van der Colff, professional, qualified and practising editor, hereby confirm that I proofread and language edited (spelling, grammar, punctuation, consistency) the dissertation with the title


Comparing vocational education in India, South Africa and the United Arab Emirates to develop guidelines for South Africa

for Artwell Marimo for submission purposes for a Masters Degree in Comparative Education at the Potchefstroom Campus of the North-West University. I did not structurally rewrite the content. Changes were suggested in track changes and Artwell Marimo has the prerogative to accept, delete or change amendments made by the editor before submission. I am, therefore, not accountable for any changes made to this document by Artwell Marimo or any other party subsequent to my edit. The edited work described here may, therefore, not be identical to the final copy submitted for examination purposes.

As the editor, I am not responsible for detecting or removing passages in the document that closely resemble other texts and could, therefore, be viewed as plagiarism.

Should you have any queries, please contact me on the contact details that appear below.

Regards


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