# Investigating the articulation of National Qualifications Framework level 4 engineering vocational and academic qualifications with higher education qualifications

**by**

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**in the Faculty of Education**

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**Supervisor: Dr T. A. Ogina**

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## Declaration

I, Rachel Mahloko (Helen) Matshoba, hereby declare that this dissertation which is submitted in fulfilment of the requirements for the Magister Educationis: Education Management, Law and Policy at the Faculty of Education of the University of Pretoria, is my own original work. It was produced by myself under the Supervision of Dr Teresa Ogina. It is the first time that I submit this work at an institution of higher education for the purpose of awarding a degree. The details of the sources I used in this work have been duly acknowledged in the text of the dissertation and in the list of references.

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Rachel Mahloko (Helen) Matshoba

August 2019

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| 1. **DEGREE AND PROJECT** | M.Ed<br><br>Investigating the articulation of NQF Level 4 vocational and academic engineering qualifications with higher education |
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## Dedication

I dedicate this research to my late parents who taught me the value of education and hard work. Also, to my loving brothers David and Terrence Vilankulu and my niece Nonhlanhla Mabotha—all of whom tragically passed away within a short period of each other during the year 2017 when I was still busy with my studies. I thank God for giving me the strength to carry on because 2017 was a very difficult year. As I was mourning their departure, I had to find the strength to continue with my studies. I also want to thank my family: my husband, friend and soulmate, Siphiwo Matshoba for his consistent encouragement and support in many ways; our two daughters Andiswa and Yondela and our son Avile for their support, strength and patience particularly during 2019 because it was also Yondela's matric year. The time I spent working on my dissertation should have been spent assisting her, so I thank her for her mature understanding. Finally, I want to thank my sisters Sonto Makhubela, Nozizwe Vilankulu, Stompie Mankge and Alender Manzini, as well as my niece Millicent Makoto for believing in me all the time and for their relentless support.

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## Abstract

This research sought to investigate the articulation of two NQF level 4 qualifications with higher education qualifications. For the purpose of this study, the two qualifications are the National Senior Certificate (NSC) and the National Certificate (Vocational) [NC (V)], respectively. The NSC is an academic qualification offered in schools while the NC (V) is a vocational qualification offered in Technical and Vocational Education and Training (TVET) colleges. The research question explored the manner in which higher education institutions enable the articulation of the NSC and the engineering NC (V) as NQF Level 4 qualifications. It examined how a University of Technology evaluated vocational and academic qualifications for enabling the said articulation. Furthermore, the research questions intended to establish if there were any measures put in place by higher education institutions to ensure equal opportunities of access for holders of vocational and academic engineering qualifications on NQF level 4, thereby enabling articulation. The TVET College was also part of the study for determining if there were any negotiations and collaborations with universities to facilitate and enable access for successful NC (V) students. The research approach followed in this study was qualitative. A case study research design was used. Purposive sampling and convenience sampling were used to identify the institutions and the participants. Interviews and document analysis constitute the data collection methods for this study. The findings of this study show that the policies of the University of Technology do make provision for the admission of students that hold both the NSC and NC (V) qualifications without discrimination. The study revealed that for potential students to be successfully admitted into this institution, they must comply with the requirements set by the institution in terms of the subjects required for entry into engineering programmes. This study recommends a collaborative relationship between the institutions in ensuring that articulation becomes a reality for students who have successfully completed the NC (V) qualification.



**Key Terms:** Qualification, Articulation, Access, Vocational qualifications, Academic qualifications, Policy, Qualifications framework

## Language editor

### Professor K.M. Masemola, PhD (Sheffield, UK)

**Copy Editor: Academic, Policy and Technical Reports 4 Marble Close, Bassonia 2090**

This serves to confirm, without prejudice, that I judiciously edited the MAGISTER EDUCATIONIS Dissertation that carries the title:" Investigating **the articulation of National Qualifications Framework level 4 engineering vocational and academic qualifications with higher education qualifications**" by Rachel Mahloko Matshoba.

For purposes of measurable due diligence, the edited copy was sent back to author on with tracked changes on a soft copy that the author could scrutinise and subsequently accept the recommended changes.

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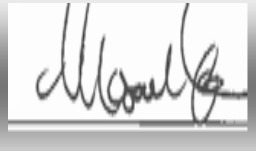

## List of abbreviations

| | |
|---|---|
| APS | Admission Point Score |
| AQF | Australian Qualifications Framework |
| CHE | Council on Higher Education |
| DBE | Department of Basic Education |
| DHET | Department of Higher Education and Training |
| ETQA | Education and Training Quality Assurance |
| GFETQSF | General and Further Education and Training Qualifications Sub-framework |
| FET | Further Education and Training |
| HEI | Higher Education Institution |
| HEQC | Higher Education Quality Committee |
| HEQF | Higher Education Qualifications Framework |
| HEQSF | Higher Education Qualifications Sub-Framework |
| HRDCSA | Human Resource Development Council of South Africa |
| LCA | Leaving Certificate Applied |
| LCE | Leaving Certificate Established |
| NC (V) | National Certificate (Vocational) |
| NFQ | National Framework of Qualifications |
| NSC | National Senior Certificate |
| NQF | National Qualifications Framework |
| OQSF | Occupational Qualifications Sub-framework |
| OECD | Organisation for Economic Cooperation and Development |
| PLC | Post Leaving Certificate |
| RPL | Recognition of Prior Learning |
| QCTO | Quality Council for Trades and Occupations |
| SANQF | South African National Qualifications Framework |
| SAQA | South African Qualifications Authority |
| SETA | Sector Education and Training Authority |
| TVET | Technical and Vocational Education and Training |
| UoT | University of Technology |
| UK | United Kingdom |
| VET | Vocational Education and Training |
| WPSET | White Paper for Post-school Education and Training |

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# CHAPTER ONE

# GENERAL ORIENTATION

## 1.1 INTRODUCTION

Post 1994, South Africa as a young democracy had to overhaul the entire Bantu education system (Allais, 2007). This form of education was founded on distinct education systems for diverse racial groups as noted by Allais (2007). For that reason, the country had to move from an education system that had about 18 different sub-systems to a single education system. This meant developing new policies for different education levels that would address the reform that was taking place. One of the first education policy instruments to be developed post the apartheid era was the South African Qualifications Authority (SAQA) Act.

The qualifications framework policy in South Africa was developed post 1994 to redress the excessive inequalities which were the consequence of apartheid; for they had caused educational, social and economic problems (Allais, 2010). Apartheid education, which was based on Calvinistic Christian indoctrination, was premised on separate education for the different racial groups in South Africa and was meant to provide inferior education that would prepare black students for inferior jobs as inferior citizens (Kallaway, 1988 in Allais, 2010). Therefore, the NQF substituted the existing qualifications system which would be overseen by new entities like Standards Generating Bodies under the auspices of SAQA. These new qualifications would be designed in such a manner as would ensure that the youth and older people with prior knowledge and skills were retained as Recognition of Prior Learning (RPL) candidates (Bird, 2000). Through RPL people would then have opportunities to access either formal employment or further education opportunities.

In the National Plan for Further Education and Training colleges which was the precursor of the policy transformation in the vocational education sector, the Department of Education noted that in 1995, vocational education was established as part of a unified National Qualification Framework (NQF), which intended to foster the combination of the education and training systems under the supervision of the

South African Qualifications Authority (Department of Education 2008:7). The development of the eight-level NQF was provided for in the South African Qualifications Authority (SAQA) Act No 58, of 1995. The SAQA Act also provided for the establishment of the SAQA, which would oversee the development of the NQF. The NQF needed to be revised in terms of content to enable students to gain diverse knowledge for the work market (Chisholm 2007).

The NQF Act stipulated guidelines for the development of a new ten-level National Qualifications Framework and three sub-frameworks. Each qualifications sub-framework is developed and managed by a Quality Council. The three Quality Councils are Umalusi, the Council on Higher Education (CHE) and the Quality Council for Trades and Occupations (QCTO). Umalusi is responsible for developing academic and vocational qualifications between NQF levels 1 - 4 for the General and Further Education and Training Qualifications Sub-framework (GFETQSF). The CHE is responsible for qualifications between NQF levels 5 – 10 for the Higher Education Qualifications Sub-framework (HEQSF). The QCTO is assigned with the development of trades and occupational qualifications for NQF levels 1 to 8 for the Occupational Qualifications Sub-framework (OQSF). Each sub-framework provides a different pathway to achieving qualifications. All qualifications registered on the NQF are described in terms of level descriptors and credit allocation.

It is important to provide this context because the focus of this study is on investigating two qualifications that are registered on the NQF. These two qualifications are justifiably new in the education system of South Africa; the NC (V) was offered for the first time in TVET colleges in 2007 and the NSC was offered for the first time in schools in 2008. The NSC was envisioned as the main academic and specialized qualification to be offered beside more vocationally focused options for post-compulsory, post-general education learners (Wedekind, 2013). Therefore, it was important to investigate the articulation opportunities with higher education that are enabled by these two new NQF level 4 qualifications.

## 1.2 PROBLEM STATEMENT

The NQF policy framework allowed the convergence of education and training into one coherent coordinated structure of education (Lolwana, 2007). Yet, as noted by Lugg (2009) the NQF policy had failed in its purpose of bringing education and training together. The integration of education and training would enable the parity of esteem of academic and vocational qualifications to enable equal access opportunities into higher education. The intention of the NQF policy was to enable progression and mobility within the NQF, irrespective of the qualification one had attained, yet it seems that progression and mobility are still restricted by the type of qualification one holds. According to SAQA (2017), there are transitioning blockages that students encounter which makes it difficult for them to gain access into higher education.

In her paper, Blom (2006) makes an example of TVET college students who were part of Cycle 1 of the NQF impact Study that was done by SAQA in 2004, which indicated that graduates from TVET colleges were regarded as being inferior: when they approached universities with their college N3-Courses, they were told that the qualifications are not “proper matric” and therefore they cannot get access into universities. Similarly, the lecturers at the same TVET indicated that TVET colleges were not offering courses that are relevant to the learners.

Offering courses that are not relevant to learners is not useful because it limits the employment opportunities for the graduates due to lack of knowledge and skills required for the job market (Wolf, 2011). Qualifications should be designed to ensure that those who successfully complete them will be able to get access into related qualifications on the next level of the NQF. More so, prospects are enhanced if such qualifications have been theoretically designed to have a similar structure (Blom, 2006) as is the case with the NSC and the NC (V).

## 1.3 RATIONALE

My interest in the topic stems from my previous involvement with Umalusi, where my main responsibilities were around the development of qualifications for the GFETQSF. The development of qualifications meant that I had to engage with

matters related to the NQF because the qualifications I was responsible for developing were registered on the NQF. I became curious to know if the qualifications that we were developing and registering on the NQF were able to provide equivalent articulation opportunities to higher education because as Dr Blade Nzimande, the then Minister of Higher Education and Training, often said: there is no place for dead-end qualifications on the NQF (Nzimande, 2014). Importantly I wanted to investigate if different qualifications (academic and vocational), registered on the same NQF level, on the sub-framework, provide equivalent articulation opportunities with higher education institutions. The Director-General of the DHET had this to say on the same issue of articulation between TVET college qualifications and higher education institutions: “we must ensure that there is articulation between what is offered at the different levels of TVET college and higher education” noted by (Nkosi, 2014).

In 2006, Blom wrote that the articulation of education and training courses is still a problem because of the continued lack of connection between the formal education and the training systems. Therefore, this study intended to investigate the situation over a period of eleven years of Blom’s paper and post the introduction of the NSC an academic qualification policy introduced in schools in 2008 and the NC (V) Level 4, a vocational qualification policy introduced in TVET colleges in 2007. Both qualifications are registered at Level 4 on the NQF.

Given the fact that the NQF is constituted by three sub-frameworks developed and managed by three Quality Councils, the qualifications that are attained from any of the sub-frameworks should meet the objectives of the NQF policy of providing equal opportunities to similar pathways for further study. Yet, that does not seem to be the case. Vocational qualifications from the GFETQSF are not treated in the same way as the academic qualifications in terms of providing articulation opportunities with higher education. In the draft report of the Ministerial Committee on Articulation Policy, some of the difficulties encountered in PSET— a sector which is fundamentally responsible for the delivery of vocational education— are the absence of parity of esteem between vocational and academic qualifications and the absence of definition and order in the progression pathways of learners and articulation measures (Department of Higher Education and Training, 2014).

Therefore, given that the two qualifications are justifiably new in the education system of the country, and have been designed to have comparable standards according to the NQF system, there is a need to understand the articulation opportunities that each provide with higher education.

## 1.4 PURPOSE OF THE RESEARCH

This study investigated the articulation of the two NQF level 4 qualifications as a gateway to higher education. I focused on exploring the views of the participants regarding how they compared the two qualifications as a gateway to higher education institutions in engineering.

## 1.5 RESEARCH QUESTIONS UNDER INVESTIGATION

In order to understand the articulation opportunities to higher education that are supposed to be provided by two NQF Level 4 qualifications as expressed in the policies governing the qualifications, the following are the main and sub-questions that guided the study:

(i) How do higher education institutions enable the articulation of the National Senior Certificate and the engineering National Certificate (Vocational) as NQF Level 4 qualifications?

Sub-questions:

(i) How do higher education stakeholders evaluate a vocational and an academic engineering qualification on NQF level 4 for the purpose of enabling articulation with higher education engineering qualifications?
(ii) What measures have higher education stakeholders put in place to ensure equal opportunities of access for holders of vocational and academic engineering qualifications on NQF level 4 for enabling articulation?
(iii) What are the main considerations for enabling access into higher education for those with NQF level 4 qualifications?
(iv) What challenges are encountered by students with NQF level 4 qualifications that make it difficult for them to articulate with higher education institutions?

(v) How do higher education institutions implement their admission policies and the national policies of the National Senior Certificate and the engineering National Certificate (Vocational) qualifications?

## 1.6 RESEARCH APPROACH, DESIGN AND METHODOLOGY

This study is qualitative and grounded in an interpretivist paradigm. A case study research design was used because of the potential it creates to learn and understand how the identified higher education institution enables articulation into the programmes it offers. Data was generated by using semi-structured interviews as well as document analysis. Thematic analysis process was followed in analysing the generated data from the interviews and document analysis. Due to the study being qualitative in nature, the sampling method that was utilised is non-probability purposive sampling. Convenience sampling was also used because the identified institutions were conveniently located in an area that I could access easily.

The stakeholders were TVET college lecturers, on the one hand, because the transition of students is from TVET colleges to higher education institutions, and the UoT staff, on the other, because the UoT is the receiving institution. The participants at the UoT were the staff members from the student academic administration departments who process student applications, the Deputy Registrar for policy-related matters at the institution and the lecturers. At the TVET college, the academic management of the NC (V) and the lecturers that are teaching subjects in the NC (V) engineering programme were identified as participant stakeholders.

The main ethical considerations that were considered for the study are confidentiality and anonymity, informed consent, voluntary participation, respect for the participants, securing the data and reflection. Chapter 3 provides details of the research methodology and how the ethical principles were ensured are presented.

## 1.7 KEY THEORETICAL CONCEPTS

### *Qualification*

In the National Qualifications Framework Act, No 67 of 2008, as amended, a qualification is defined as a “registered national qualification” (DHET, 2009, 4). That means that for a qualification to be recognised it must be registered on the NQF by

SAQA. In this study, a qualification means an education and training programme with specific educational outcomes that has been designed to meet the standards and level descriptors of the NQF level for which it is designed, and which is intended to provide access to the next level of study on the NQF.

***Articulation***

Articulation is defined as a means of facilitating student progression from one educational level to the next by acknowledging the academic achievements (World Bank Study quoted in the Department of Higher Education and Training, 2014). In a presentation delivered at a SAQA conference, Blom (2013: 4) defines articulation as "the systematic coordination of course and/or program content within and between educational institutions to facilitate the continuous and efficient progress of students from grade to grade, school to school, and from school to the working world". In this study, articulation means the process of enabling through policies and procedures, that those who have successfully completed qualifications at a particular level of the NQF are able to gain access into the next level of the NQF either horizontally or vertically.

***Access***

In the education sector, formal access to education is about acceptance or admission at an education institution (Gamede, 2005). In Mathekga (2012) the definition of access is stated as the admission of an applicant into an institution after the elimination of any blockade which might deny admission to such an applicant. In this study, access means the process of enabling through policies and guidelines, the admission of those who meet the set requirements into an education institution.

***Qualification Frameworks***

Allais (2007) regards qualification frameworks as interventions at government and international levels attempting to institute comparability between different qualifications and to create some level of order amongst different qualifications that are being offered and in certain instances to also standardise education systems. She states that in their design, principles such as portability and transparency of qualifications are considered. In this study, the NQF is used as a mechanism that ensures that qualifications that are registered on the framework have comparable standards. This provides an opportunity for understanding their equivalence

because they would be designed to meet the specific educational outcomes for a particular qualification level on the NQF. Through the NQF, SAQA and the Quality Councils are able to ensure that qualifications developed in the country are of a satisfactory quality and that the qualifications are comparable internationally (SAQA, 2016).

### *Vocational qualification*

The NC (V) is a vocation qualification which is defined as enabling "students to acquire the necessary knowledge, practical skills, applied competence and understanding required for employment in a particular occupation or trade or class of occupations or trades or entrance into Higher Education". (Department of Education, 2006, 82). In this study, a vocational qualification means an education and training programme that is registered on the NQF, designed to equip student with context-based education and training that is offered through theoretical and practical environments and, as such, aimed at enabling unlimited progression opportunities within the education and training system.

### *Academic qualification*

In this study, an academic qualification means an education programme that is registered on the NQF that is designed to equip learners with discipline-based knowledge offered largely through theoretical environments, which is aimed at enabling unlimited progression opportunities within the education and training system.

### *Policy*

The online *Cambridge Dictionary* defines a policy as "a set of ideas or plan of what to do in particular situations that has been agreed to officially by a group of people, a business organisation, a government, or political party" (Accessed, 2019 July). In this study, policy means a set of rules and prescripts that are developed by an organisation or group of people to regulate a specific area of operation and used as a basis for taking decisions.

## 1.8 VALUE OF THE RESEARCH

The significance of the study is that it has provided insights on the perceptions of the stakeholders on the National Senior Certificate and the engineering National Certificate (Vocational) which are NQF level 4 qualifications, to the extent that both are pathways to higher learning institutions. The study has identified pathways that lead to enabling articulation between the NSC and/or NC (V) and the qualifications offered by the engineering department at an UoT. The various practical procedures and platforms for disseminating the application information for enabling potential students to gain access to higher learning institutions are highlighted.

## 1.9 RESEARCH STRUCTURE

This dissertation is structured as follows:

*Chapter 1: General orientation*

In this chapter, I have provided a brief background and context of the study. I then discussed the problem statement and my rationale. I have also indicated the purpose of the study and included the research question and sub-questions. For ease, I have included a summary of the research approach design and methodology. It was imperative to also define the key theoretical concepts as defined in literature and as presented in this study as well as the significance of the study.

*Chapter 2: Literature on two NQF Level 4 qualifications and their articulation with Higher Education Institutions*

This chapter focuses on the national and international literature review on the access to higher education; the NSC and the NC (V), which are the two qualifications under investigation; the alignment between policy and practice and, finally, the challenges concerning articulation, tensions between vocational and academic qualifications and the perceptions held against vocational qualifications.

*Chapter 3: Research Approach, Design and Methodology*

Chapter 3 provides detailed discussion of the research paradigm, research approach and the research design used in this study. The chapter discusses the

research site, the sampling procedures and the samples that were drawn for the study. Furthermore, the chapter outlines the methods for data collection and data analysis and provides cogent reasons for selecting these methods. The last sections of the chapter present trustworthiness matters of the study, ethical issues that had to be considered, the limitations and delimitations of the study as well as a summary of the chapter.

*Chapter 4: Findings and Discussion*

Chapter 4 includes the profile of the participants and presents the research findings and discussion. The findings are presented in themes that are supported by direct quotations from the participants. The themes are aligned with the research questions and, in the same logic, the findings are discussed in relation to literature on the research topic. I have also provided a summary of the chapter.

*Chapter 5: Summary of findings, conclusion and recommendations*

This is the last chapter in which I have presented a summary of the research findings, concluded the study and made recommendations for policy, practice and future studies.

## 1.10 SUMMARY OF THE CHAPTER

The discussion in this first chapter entailed the introduction to the study which provides the context in relation to the NQF policy, the problem statement and the purpose of my study. The context outlined a brief background of the transformation of the educations system of South Africa which resulted in the development of the NQF policy, the development of the two qualifications under investigation and the establishment of various bodies to oversee the implementation of the NQF. This chapter also presents the problem statement, rationale and purpose of my study. It also presents the research questions that guided the investigation, the key theoretical concepts contained in the study and the research design and methodology marshalled throughout the study. The next chapter is about the literature review on the access to higher education institutions globally, on the two qualifications under investigation, alignment between policy and practice and the challenges of articulation.

# CHAPTER TWO

# LITERATURE ON TWO NQF LEVEL 4 QUALIFICATIONS ANDTHEIR ARTICULATION WITH HIGHER EDUCATION INSTITUTIONS

## 2.1 INTRODUCTION

In the previous chapter, I introduced the study by providing the context in relation to the transformation of the education landscape which led to the development of the NQF policy. I also discuss the problem statement, the rationale for conducting the study, the purpose and the significance of this study. The literature review in this chapter also sought to look at different ways in which access to higher education is enabled internationally and in South Africa for those who have academic and vocational qualifications and the different challenges that they may experience. I also explore the literature on the development of the National School Certificate (NSC) and the National Certificate (NC (V)) as two NQF Level 4 qualifications both of which were developed to address the transformation imperatives of access to education in South Africa after 1994. Furthermore, the literature review explores the literature that provides insight on the alignment between policy intentions and policy implementation. The chapter proceeds to explore the challenges associated with articulation, vocational qualifications and the perceptions around vocational qualifications. I conclude the chapter by discussing the border crossing theory as a theoretical framework in this study.

## 2.2 ACCESS TO HIGHER EDUCATION INSTITUTIONS

In the literature review, I investigated the possible access opportunities provided by two school-based initial vocational education qualifications offered in the education system of the Republic of Ireland. In Ireland, which is one of the countries implementing a National Framework of Qualifications (NFQ), there is a similar problem with two of their qualifications located between NFQ level 4 and 5. The Leaving Certificate Applied (LCA) is a school-based pre-vocational qualification offered alongside the Leaving Certificate Established (LCE), which is pitched on high stakes. The study from the Republic of Ireland by Gleeson and O'Flaherty (2013) focused on a comparative study between the two qualifications – one a

vocational qualification and the other an academic qualification for the purpose of enabling access to further learning opportunities. The study found that there was restricted access to further learning opportunities for those who completed the vocational qualification. LCA students that want to access higher education are not permitted to do so on the basis of their performance in the LCA; they must first take the Post Leaving Certificate (PLC), which is not the case for LCE graduates who have instant access to higher education.

In another study conducted in Germany that was intended to investigate the permeability between Vocational Education and Training (VET) and higher education by (Spöttl, 2013), one of the limitations noted in the study is that presently there are no definite and dependable answers to the concerns raised on how transferability between vocational and academic education could be enabled for the purpose of ensuring success. Furthermore, Gamar (2017) conducted a study on the vertical permeability between vocational qualifications and higher education in Qatar. This research investigated the case of a technical institute's review of its vocational qualifications to enable them to facilitate academic credit transfer and determine permeable and well-organized routes for study in higher education. What the study found was that through a well negotiated flexible semester system that accommodated the trades programmes, a policy change that allowed for the award of academic credit to vocational courses, the development of comprehensive programme information which included the rational and outcomes of the programme and a credit transfer policy were all focused efforts used by the technical institute to be reactive to the growing effects of a separated and fragmented higher education system of the country as noted by Gamar (2017).

In the UK, there was notable success and improvement in the enrolment, retention and completion rates of students undertaking vocational qualifications. However, vocational education was still considered to have much lesser prestige than more traditional and academic pathways as noted by Fuller and Macfayden (2012). Furthermore, Fuller and Macfayden (2012) reported that vocational qualifications did not automatically give access to higher learning institutions. That means there is an evident absence of parity around numerous educational pathways. That situation led to the review of vocational qualifications in England for the age group

14 – 19. The review of the vocational education system in 2011 was intended to reflect on the enhancement of the vocational education for 14 to 19-year olds by stimulating effective articulation into the workplace and into higher education and training pathways (Wolf, 2011). This was a result of the realisation that vocational education in the country had changed from what it was 20 years before.

In South Africa, it is clear that the policy intentions are for access into higher education for both academic and vocational qualifications. This can be seen in the articulation policy developed by the Department of Higher Education and Training which clearly spells out the articulation principles for the higher education sector.

The Director General of the Department of Higher Education and Training had this to say: “We must make it a point that there is articulation between what is offered at a college level and at a university level. If you’re doing an engineering [course] at a TVET college and if, after your qualification, you want to pursue your studies further the universities must be able to give you credit at what you’ve studied,” Qonde said (Nkosi, 2014). This is in conjunction with the view held by the DHET that TVET colleges must provide articulation opportunities with higher education institutions to enable those who opt for a vocational training route to progress to study at university if that is what they want to do (DHET, 2012). In addition, another policy initiative named the White Paper for Post-school Education and Training (WPSET) stipulates the creation of links for post-school education and training (HRDC, 2014).

Even though there are policy intentions for access to be opened for both holders of vocational and academic qualifications in higher education, Allais (2006) asserts that the Senior Certificate (previous - matric qualification) is a qualification, mainly obtained in schools at the exit level for secondary education. By contrast, other qualifications have been defined in comparison to the Senior Certificate. Thus, in my view, making the Senior Certificate (by extension the NSC) the benchmark NQF level 4 qualification has mobility and articulation prospects. The Senior Certificate has since 2008 been replaced by the National Senior Certificate (NSC) in schools as part of the transformation of the qualification policies in the schooling sector.

### 2.2.1 Equal opportunities for gaining access into higher education institutions

The National Senior Certificate (Matric - Grade 12) qualification has been the traditional and still is a current form of entry into higher education in South Africa (Zaaiman,1998). There are other alternate qualifications in the form of mature age exemption and selection tests. For the NSC offered in schools, and the NC (V) offered in TVET colleges are minimum pass requirements that must be met by a learner for access to a bachelor's study. The minimum pass requirements of the NC(V) are detailed in the policy document – *The Minimum Admission Requirements for Higher Certificate, Diploma and Degree programmes requiring a National Certificate (Vocational) at Level 4 of the NQF (26 November 2009)*. The requirements in the policy are much higher than the minimum pass requirements of the NSC. The NSC requirements are detailed in the policy document *The Minimum Admission Requirements for Higher Certificate, Diploma and Degree programmes requiring a National Senior Certificate (11 July 2008).*

**Table 1: Comparison of the NSC and NC (V) admission requirements for Bachelor's Degree**

| **National Senior Certificate (NSC)** | **National Certificate (Vocational) [(NC (C)]** |
|---|---|
| Minimum 40% in the candidate's Home Language | |
| Minimum 30% in the institution's LOLT | An achievement rating of at least 60% in three subjects including the institution's LOLT |
| An achievement rating of at least 4 (50 – 59%) in four designated subjects | An achievement of a minimum 70% in 4 vocational subjects |

*Source: The information used to produce the table is extracted from the policies of the NSC and the NC (V)*

If one considers the pass requirements of the two qualifications in the table above, it becomes evident that the pass requirements for the NSC are lower than those of the NC (V). Thus, meaning that opportunities for access into higher education for vocational and academic students are not equal in South Africa because an NC (V) learner who is studying towards a vocational qualification has to work twice as hard as an NSC learner studying towards an academic qualification does.

## 2.3 BACKGROUND OF THE NATIONAL QUALIFICATIONS FRAMEWORK

Qualification frameworks are a global phenomenon and as stated by Allais (2007), internationally, they show a developing tendency. Their development is backed by the International Labour Organisation (ILO) and United Nations Educational, Scientific and Cultural Organisation (UNESCO) as also noted by the Department of Education and Department of Labour (2002). At the time when South Africa made a policy decision of joining this developing tendency by developing its own National Qualifications Framework, it had to learn from countries like New Zealand, Scotland, Canada, Germany, Ireland and England (Isaacs, 2010). These countries were already implementing qualifications frameworks. There are substantial differences in the different countries in terms of how they have designed their qualifications frameworks and their manner of implementation (Allais, 2007).

By late 1990s and beginning of the 21st century, many other countries began to also develop qualifications frameworks, much of which were in vocational education and modelled against the National Qualifications Vocational (NQVs) of Britain (Allais, 2007). Some of those countries include Caribbean countries like Jamaica, Barbados and Trinidad and Tobago. Qatar is one of the recent countries to have developed a qualifications framework with the purpose of ensuring the integration of its education system with distinct learning pathways between K -12, TVET and higher education as noted by Gamar (2017).

South Africa also found itself joining in the trend of developing a qualifications framework. The design and development were enabled by the South African Qualifications Authority Act, No 58 of 1995, which has now been repealed through the NQF Act, No 67 of 2008, which was the first piece of education legislation to be promulgated by the new democratic government which came into power in 1994 (Isaacs, 2010). One of the purposes of the SAQA Act was to develop and implement a National Qualifications Framework for South Africa. The Act also provided for the establishment of the South African Qualifications Authority, which had a responsibility of overseeing the development and implementation of the NQF.
The development of the NQF was an idea borrowed from other countries like Canada, England, Scotland, and New Zealand where qualification frameworks were

emerging since the 1980s (Chisholm, 2007). The NQF is defined as “a comprehensive system approved by the Minister for the classification, registration, publication and articulation of quality–assured national qualifications and part-qualifications”. (SAQA, 2016: 3).

### 2.3.1 The development of the first eight level South African NQF

One of the key strategic and symbolic policy changes which had come about as the result of the educational transformation post-1994 was the introduction of an eight level NQF. Increasingly, frameworks for qualifications have been perceived as worthwhile policy tools for post-school training (Allais, 2011) and envisioned to address numerous matters in a system perceived to be requiring a comprehensive overhaul (Lolwana, 2007). Furthermore, the African National Congress (ANC) government had taken a policy position to develop an NQF for the country. This was in line with what is stated in one of its educational policy documents which states an urgent focus on establishing national qualifications frameworks that align education with training (CEPD, 1994). The need for an NQF structure was to develop a system that could be used for quality assurance in terms of registration and articulation of education at different levels (NQF Act No 67 of 2008).

With the development of the NQF, the intent was the convergence of education and training (Lugg, 2007). This was a milestone in the educational history of the country according to Wheelahan (2011) who states the importance of qualifications frameworks as a structure for regulating qualifications for the job market internationally. Field, Musset and Álvarez-Galvan (2014) are of the view that, in principle, robust frameworks in any country should be able to advance lifelong learning and enhance opportunities for accessing higher education. However, the South African NQF was criticised as noted by Allais (2007) for failing to achieve a unified system that enables life-long learning. For that reason, a call for the review of the NQF was made just after SAQA started with its development. A call for the review was made because already there were disagreements with the outcomes-led framework approach which was used for the development of the NQF.

### 2.3.2 Policy intentions and policy in practice - The first South African NQF policy

Policies can be developed with very good intentions which are normally expressed through their purpose; but it is through implementation that the true value of a policy can be realised because policy implementation does not always follow the path that policy makers intend (Jewison, 2008). This was evident in the implementation of the NQF policy, which was somewhat a set-back for the transformation of the education system of South Africa because the NQF was a significant policy development with regards to education and training (McGrath, 2006). The expectation was that the NQF would present prospects for addressing lifelong learning features that would add value to economic growth, social justice and individual empowerment in a rather modest way (Walters and Isaacs, 2009). However, that was not the case because, as noted by Allais (2010) even the most dedicated enthusiasts of the NQF do acknowledge that the NQF has not accomplished its ambitious and broadly supported objectives. It had failed.

In Allais's (2007) view, there are several reasons that led to the failure of the South African NQF to produce the expected results that relate to the model of qualifications frameworks and the role that was assigned to Outcomes Education. Allais (2007) identified the lack of uptake of various qualifications and unit standards that were registered on the NQF; several providers in the education system continuing to offer the qualifications that they were offering prior to the implementation of the NQF; most of the qualifications and unit standards not developed through the systems and processes set up under the NQF as some of the reasons that led to the failure of the NQF.

The South African NQF was designed to be based on qualifications that are unit standards-based whilst some qualifications are not unit standards-based often referred to as whole qualifications. Allais (2007) found that all qualifications and unit standards-based qualifications registered on the NQF were based on specific outcomes. One would think that due to the same design principles, it would be easy for the qualifications to articulate, yet that was not the case. Most of the unit standards-based qualifications did not articulate with whole qualifications. One of the reasons was that whole qualifications were underpinned by the curriculum while

unit-based qualifications did not have specified curricula. Providers of higher education were expected to design their own learning programmes which meant that there was no national standard for unit-based qualifications as opposed to whole qualifications. The national standard for schooling, TVET and adult qualifications is ensured through external examinations while the national standard for higher education qualifications is ensured through the HEQC processes. Before the formation of the QCTO, there was no national standard for unit standard-based occupational qualifications. Assessment was also decentralised for most of the unit-standard-based qualifications, which was not the case with full qualifications.

Qualifications and unit standards are registered as lists of learning outcomes. Each learning outcome represents a key competence that the learner will have acquired in order to be awarded the qualification (Allais, 2007). The conclusion was that an outcomes-led qualifications framework, like the model designed for the South African National Qualifications Framework, cannot achieve what it claims or intends to achieve at the pre-determined scale (Allais, 2007).

In 2001, six years after the development of the policy, a Study Team was appointed by the Ministers of Labour and Education to undertake a study on the implementation of the NQF policy. The Study Team released a report in 2002 titled *Report of the Study Team on the Implementation of the National Qualifications Framework.* The concerns raised in this report were, amongst others, disgruntlement with the speed at which the policy was being implemented particularly in connection with access, progression and redress matters. The architecture of the NQF that included its terminology, the structure, its accompanying policies and regulations were all considered to be confusing, intricate, a waste of time and not sustainable. There were also concerns that pointed to a lack of leadership accompanied by the lack of clarity of the roles of Ministers, government departments and SAQA and the increase of quality assurance bodies (Department of Education and Department of Labour, 2002). Given these concerns, the study team was given the opportunity to make recommendations on how to restructure, fast-track and improve the implementation of the NQF (Department of Education and Department of Labour, 2002). The recommendations made by the team included the need to develop an overall national plan for the implementation

of the NQF which will match the required resources with the objectives of the NQF; the trademarks of an effective NQF implementation should be uncomplicatedness, lack of ambiguity, agility and relationships of trust; a policy that will assert and elaborate the integration of education and training; and the need for the Departments of Education and Labour to assert their leadership roles on the NQF policy (Department of Education and Department of Labour, 2002). The objectives of the Study Team were to come up with recommendations that would assist to streamline and accelerate the implementation of the NQF policy (Department of Education and Labour, 2002).

Concerning quality assurance bodies, it was estimated that at the time there were about 30 bodies that were responsible for quality assurance. Before 2009, the Department of Labour was responsible for the Sector Education and Training Authorities (SETAs). The SETAs were responsible for work-based learning for their particular sectors. The Department of Education was responsible for education and training that took place in institutions of learning. The SETAs enforced quality assurance through their own Education and Training Quality Assurance (ETQA) bodies, while the Department of Education had two bodies that were responsible for quality assurance being Umalusi and the Council on Higher Education. The existence of all these quality assurance bodies resulted in strong tensions between the Department of Education and Department of Labour. There were power shifts and contestations as well as the strategies to distinguish and manage these challenges proved to be problematic (Isaacs, 2010).

Another area of disagreement between the Departments responsible for the NQF was the drift between academic and vocational studies in the design of standards and qualifications (Department of Education and Department of Labour, 2002).
According to literature by (Jewison, 2008) there are other reasons that led to the dissatisfaction with the implementation of the NQF. One of the reasons was that the NQF had a requirement for uniform standards setting processes for all registered qualifications. SAQA had developed a policy that required all qualifications to be developed through Standards Setting Bodies and the qualifications had to conform to certain rules. That did not sit well with the universities which were accustomed to developing qualifications in their own way. In the view of Jewison (2008), higher

education institutions rejected the SAQA policy and rather preferred the use of the Higher Education Quality Committee (HEQC) as opposed to the National Standards Bodies model. To this day, the HEQC which is a committee of the Council on Higher Education is responsible for setting standards for higher education institutions and the qualifications they offer. It does this through National Reviews, Institutional Audits and accreditation.

**Table 2: The 8 Level National Qualifications Framework**

| | | | |
|---|---|---|---|
| | UNIVERSITIES | Doctoral Degree | COUNCIL ON HIGHER EDUCATION |
| | | Master's Degree | |
| | | Postgraduate Diploma | |
| | | Bachelor's Degree | |
| | | Advanced Certificate | |
| | | Higher Certificate | |
| | NSC/ Grade 12 | NC(V) Level 4 | UMALUSI |
| | NSC/ Grade 11 | NC(V) Level 3 | |
| | NSC/ Grade 10 | NC(V) Level 2 | |
| Senior and Intermediate phase (Grade 4 – 9) | | ABET Level 4 | |
| | | ABET Level 3 | |
| Foundation Phase (Grade 1 – 3) | | ABET Level 2 | |
| | | ABET Level 1 | |

*Adapted from Allais (2010)*

### 2.3.3 The Development of the ten-level NQF

From my own experience, having been close to the process at the time, I discerned that it took a period of five years for the Ministers of Labour and Education to act on the report of the Study Team. In 2007, they released a document titled *Enhancing the efficacy and efficiency of the National Qualifications Framework: Joint Policy Statement by the Ministers of Education and Labour*. The joint policy statement was meant to prepare the ground for the changes in legislation relating to the NQF. The policy did not change the objectives of the new NQF. However; it proposed changes to the organisational structure of the NQF apparatus. A new ten level NQF with three sub-frameworks was established through the NQF Act, No 67 of 2008. The intention of the ten-level NQF was to enable an easier understanding of the relationships between the various programmes (Field, Musset and Álvarez-Galvan, 2014).

**Table 3: The 10 level National Qualifications Framework**

| NATIONAL QUALIFICATIONS FRAMEWORK | | |
|---|---|---|
| **LEVEL** | **SUB-FRAMEWORKS AND QUALIFICATION TYPES** | |
| **10** | **DOCTORAL DEGREE** | * |
| **9** | **MASTER'S DEGREE** | * |
| **8** | **BACHELOR OF HONOURS DEGREE/POST GRADUATE DIPLOMA** | * |
| **7** | **BACHELOR'S DEGREE / ADVANCED CERTIFICATE** | * |
| **6** | **DIPLOMA/ADVANCED CERTIFICATE** | **OCCUPATIONAL CERTIFICATE LEVEL 6** |
| **5** | **HIGHER CERTIFICATE** | **OCCUPATIONAL CERTIFICATE LEVEL 5** |
| **4** | **NATIONAL CERTIFICATE** | **OCCUPATIONAL CERTIFICATE LEVEL 4** |
| **3** | **INTERMEDIATE CERTIFICATE** | **OCCUPATIONAL CERTIFICATE LEVEL 3** |
| **2** | **ELEMENTARY CERTIFICATE** | **OCCUPATIONAL CERTIFICATE LEVEL 2** |
| **1** | **GENERAL CERTIFICATE** | **OCCUPATIONAL CERTIFICATE LEVEL 1** |

## Key to sub-frameworks

| Higher Education Qualifications Sub-framework | General and Further Education and Training Qualifications Sub-framework | Occupational Qualifications Sub-framework |
|---|---|---|

*Adapted from the Higher Education Qualifications Sub-framework CHE (2013)*

The main differences between the eight-Level NQF and the ten-Level NQF are represented in the table below:

**Table 4: The difference between the eight level and the ten level NQF**

| 8 Level NQF | 10 Level NQF |
|---|---|
| The Ministers of Education and Labour are the custodian of the NQF | The Minister of Higher Education and Training is the custodian of the NQF |
| Occupational qualifications are located in the Department of Labour | Occupational qualifications are located in the newly formed Department of Higher Education and Training (DHET) |
| Department of Education overseas general, further and higher education | The Department of Education is split into two departments – Department of Basic Education responsible for general and further education and DHET responsible for post-school education |
| An apparatus with 8 qualification levels | An apparatus with 10 qualification levels |
| A Ph D is the highest level at NQF level 8 | A Ph D is the highest level at NQF level 10 |
| NQF level 5 is seen as the 1st level of higher education but is a grey area which is largely occupied by private providers | An introduction of a Higher Certificate at NQF level 5 |
| A single framework representing qualifications offered by schools, adult education centres, TVET colleges, universities, universities of technology and SETAs | An integrated framework composed of three sub-frameworks for general and further education and training, higher education and occupational education |
| Standards Generating Bodies are responsible for developing unit standards and qualifications for registration on the NQF | SAQA is responsible for developing policy and criteria for the development and registration of qualifications and Quality Councils are responsible for developing qualifications for registration on their respective sub-frameworks |

Now that the eight-level NQF has been reviewed and replaced by the ten-level NQF which is comprised of three sub-frameworks and new qualifications developed and registered on the sub-frameworks, it is proper to investigate if the new NQF level 4 qualifications are enabling access to higher education through articulation. The reason for investigating NQF level 4 qualifications is because it is at that point where there are boundaries between further education and training and higher education and training. It is a critical threshold where learners exit schools and/or TVET colleges, with the purpose of either getting admission in higher education institutions or employment opportunities. This study focused on the two qualifications the National Senior Certificate and the National Certificate (Vocational) for enabling articulation with higher education institutions.

## 2.4 THE NATIONAL POLICY ON ARTICULATION

The Department of Higher Education and Training developed the *Articulation Policy for the Post-School Education and Training System of South Africa,* which was published in a Government Gazette in January 2017. The development of the articulation policy is in compliance with Section 8 (2) (b) of the NQF Act 67 of 2009 as amended which directs the Minister to regulate policy on issues relating to the NQF in terms of this Act, and the policy must be proclaimed in a Gazette as stated in (DHET, 2009). The policy was developed because there are existing blockades that made transitioning to higher education difficult for students (SAQA, 2017).

In the policy, there are multiple definitions of articulation but the one that is relevant and suitable for my study refers to “the pathways followed by individuals as they progress, and are supported in, their learning and work - by institutions that are flexible in their admission, curriculum, learning and teaching, and learner support systems” (DHET, 2017, 1). SAQA also has multiple definitions of articulation and the one appropriate for my study indicates that “articulation exists through the addressing of boundary-making practices and the support of boundary-crossing practices as individuals encounter ‘boundary zones’ between the different elements of learning pathways and adopt ‘boundary-crossing practices’ in their transitioning along their pathways” (SAQA, 2017, 2).

The purpose of the articulation policy is stated as being to establish an all-embracing theoretical structure, principles and policy declarations to support the execution of

trustworthy methodologies to articulation within the post-school education and training system of our country (DHET, 2017). In my opinion, this means that the policy should be a vehicle that enables the elimination of boundaries between the various NQF levels for the purpose of enabling mobility within the NQF, for those who qualify.

One of the principles of the articulation policy is that it must promote the value of learning outcomes achieved through different routes equally. My interpretation of the principle is that articulation is there to enable access to further learning regardless of whether a prospective student applies with an academic or vocational qualification. In order to enable the effective application of articulation, higher education institutions have amongst others, the responsibility of making sure that they enable articulation through rules/guidelines and ensure that the policies and guidelines that they develop for their institutions are aligned to the Articulation Policy of the Minister (DHET, 2017).

The policy on articulation was developed after the DHET published the White Paper on Post-School Education and Training (WPSET) in 2013, in which it indicated that making sure that articulation of qualifications occurs is a fundamental apprehension for the state as well as for regulatory authorities such as SAQA and the Quality Councils. All institutions within the PSET system must collaborate to eliminate dead ends for learners as stated in (DHET, 2013). In the same PSET policy document, the DHET acknowledges that articulation is not at the required level even within the universities and college administration components of the department.

The WPSET makes it clear that ensuring that there is easy articulation between the various parts of the education system for example between Level 4 NC (V) qualification and access to a university diploma and degree is a significant part of creating a logical and coordinated post-school education system (DHET,2013). This is an indication that there are clear policy intentions of ensuring that there is articulation between NQF level 4 qualifications and higher education qualifications. However, what is not clear is whether the higher education institutions are indeed implementing these policies as intended.

## 2.5 THE TRANSFORMATION OF ACADEMIC AND VOCATIONAL QUALIFICATION POLICIES IN THE EDUCATION LANDSCAPE OF SOUTH AFRICA

The Senior Certificate, which was offered in schools before the introduction of the NSC, and the NATED-Courses which were offered in TVET colleges before the introduction of the NC (V,) might have been phased out on the basis of the arguments that these qualifications were not responding well to the National Qualifications Framework (NQF) objectives and principles. They were seen as limiting the development of a unified system (Kraak, 2008), envisaged by the framework, because of the territorial approaches of working that described the boundary between education and training during the apartheid regime as noted by (Kraak, 2008). Furthermore, the vocational programmes are considered to be of an inferior standard and as such have been the subject of much criticism as noted by (Umalusi, 2006).

### 2.5.1 The development of the National Senior Certificate as an academic qualification

In 1998, the Curriculum 2005 policy was introduced in the Foundation Phase while the NATED Curriculum continued to be used in other levels. Curriculum 2005 was reviewed, and this led to the National Curriculum Statements for the Foundation Phase to be offered in 2003. There was the National Curriculum Statements (NSC) in the Foundation Phase, Curriculum 2005 in the Intermediate Phase, and NATED Report 550 in the Senior Primary and FET phases during this transition period.

In 2008, the National Curriculum Statements (NCS) was introduced in Grades 10 11 and Grade 12 which are referred to as Further Education and Training.

The NSC is a three-year national qualification policy being implemented by private and public FET schools. The qualification is for a duration of three years that is from Grade 10 to Grade 12. At the time when the NSC was developed, it was envisaged as a predominantly academic and specialised qualification to be offered beside the more vocationally focused options for learners in post-compulsory, post-general education (Wedekind, 2013).

### 2.5.2 The development of the National Certificate (Vocational) as a vocational qualification

The National Certificate (Vocational) policy was introduced in 2007 as a new qualification in TVET colleges to replace NATED-Courses. At the time, it was deemed necessary to replace the TVET college programmes as part of the recapitalization programme of TVET colleges as envisaged in the *National Plan for FET colleges*. This policy was introduced as a qualification renewal measure in the TVET sector as part of government plan to restructure the college sector and a route to enable students to gain access to a vocational qualification at NQF level 4.

This NC (V) qualification is structured in such a way that students are offered a total of seven subjects. These subjects are Home Language or First Additional Language if that is the language of teaching and learning of the TVET college, Mathematics or Mathematics Literacy, and Life Orientation. The students are expected to choose four subjects from the vocational component which is a specialization. Three out of the four subjects must be selected from the same sub-field.

## 2.6 ARTICULATION CHALLENGES IN SOUTH AFRICAN HIGHER EDUCATION

The Department of Higher Education and Training developed the articulation policy as a direct response to the articulation challenges that had been identified. The national articulation policy mentioned in *sub-section 2.4* above identifies, amongst others, the following issues some of the which seem to be obstacles to articulation: academic qualifications prioritized over vocational or occupational qualifications; NQF qualifications that are not relevant for further learning; negative perceptions of the adequacy of the purpose and nature of technical and vocational education and training skills and competencies and inadequate articulation structures.

In a desktop study of literature and pathways articles on the TVET college sector in South Africa commissioned to Underhill Corporate Solutions by the Human Resource Development Council of South Africa (HRDCSA) in 2014, it is reported that TVET colleges, which are institutions offering vocational qualifications, are facing several challenges. The challenges comprised of the absence of clear progression routes to higher learning institutions, occupations or entrepreneurship opportunities as noted by (HRDCSA, 2014). As a result, the HRDCSA put together

a workstream on pathways with a purpose of detecting examples of TVET college articulation routes that will guarantee seamless transitions for those students coming from colleges to higher education (HRDCSA, 2014:4). The intent was to come up with recommendations on the articulation routes for TVET colleges in the country, in order to guarantee the attainment of the vision outlined in the WPSET as well as the recommended purpose of the TVET college sector. Thus, giving an indication that there are indeed articulation challenges for vocational qualifications offered in TVET colleges.

In his study, Mathekga (2012) states that there are two levels used in the South African higher education system to access higher education. The first criterion is meeting the entrance requirements which is in policy prescribed by the government and secondly candidates must meet the faculty specific requirements set by the higher education institutions which are determined through the M score/Admission Point Scores (APS)/admission tests. These entrance requirements serve as canons to accessing higher education. The Senior Certificate and the National Senior Certificate were the two qualifications identified by Mathekga (2012) as entry levels to higher education institutions. The NC (V) or the occupational qualifications were not listed as access to higher education in 2012, which was two years after the implementation of the NQF Act. Each qualification that is located at NQF level 4 and registered on the NQF, regardless of the sub-framework on which it is located, should provide articulation opportunities in equal measure.

The Civil Engineering Heads of Departments of various universities of technology noted that the Higher Education Qualifications Framework (HEQF), which was developed by the CHE in 2007, was intended to enable articulation of qualifications and to provide a single higher education system nationally. Achieving those objectives was not easy because concerns were raised on the adequacy of the qualifications on the HEQF in fulfilling the national policy goals and objectives. Because of the concerns and the changes that were taking place in the NQF landscape, the Higher Education Qualifications Sub-framework (HEQSF) was published as policy in 2013. It was hoped that the HEQSF would address the shortcomings of the HEQF (Ndambuki and McKune, 2013).

One of the concerns raised about the shortcomings of the HEQF was the extent to which the qualifications supported the objective of expanded access. As a result, the new HEQSF was meant to recognise three broad qualification pathways which are vocational, professional and general (Ndambuki and McKune, 2013). Despite the introduction of the HEQSF, the struggle for access is still real for many prospective higher education students.

### 2.6.1The tension between academic and vocational qualifications

The Australian Qualifications Framework (AQF) has had the most impact on VET where it is said to be more fundamental in creating a national system for the VET sector and VET qualifications that are nationally recognised. However, that being the situation, Wheelahan (2011) argues that there is a tension between VET qualifications and senior school certificates and higher education qualifications. The tension is a result of the different design models of the qualifications. The VET qualifications are based on competency training models while the senior schools' certificates and higher education qualifications are based on input models of curriculum. Because of the tension, the AQF like the South African NQF has failed in its main objective as stated by Wheelahan (2011) to enable student transfers, articulation routes, as well as credit transfer between different sectors of education. All these objectives are directly linked to articulation.

This is not unique to Australia because (Spöttl, 2013) notes that the initiatives of Europe and implementing apparatuses such as Qualifications Frameworks for the purpose of enabling permeability requires some measures which will ensure that those with vocational qualifications are provided with academic education that will culminate in degrees. Presently, the manner in which the curricula offered by higher education institutions is structured does not allow these requirements to be met.

Another challenge which results in tensions between academic and vocational qualifications is one noted by (Livock, 2018) who states that in Australia, after the World War II the advancement of the cognitive skills of individuals was recognised as the best form of learning to produce a citizen with transferable cognitive skills which were relevant for the scientific industrialised economy. The consequence of this theory was differentiated secondary schooling whereby students who were

regarded as having higher cognitive skills because of intelligence tests were channelled into an academic pathway and those regarded as having lower cognitive skills channelled into technical pathways. This practice perpetuated the stereotypical belief that those who pursue academic education were ‘bright’ or ‘clever’ or ‘good with their brains’ and those pursuing technical education were ‘not so bright’ or ‘not so clever’ or ‘good with their hands’.

In 2006, Umalusi conducted a study that resulted in a report titled *Apples and Oranges? A comparison of school and college subjects.* The study was conducted with a view to getting an insight on the standard of different courses in selected subjects offered in then Further Education and Training (FET) colleges in comparison to similar subjects offered in schools and to assess the extent to which these various courses prepared learners for higher education (Umalusi, 2006). Furthermore, the research intended to determine if the school courses and the college courses could be regarded as equivalent, because of the perception that the vocational programmes offered in colleges were of an inferior standard and hence seen as lower versions of the school qualification. With the design of the NQF it was hoped that the status of the vocational qualifications would be elevated (Umalusi, 2006), as was the case in Australia whereby vocational qualifications benefited from the introduction of the Australian Qualifications Framework (AQF) (Wheelahan, 2011) as mentioned above.

The Umalusi report was key in providing a much more detailed understanding of the notion of equivalence of qualifications. What the research found was that the school subjects were much broader than the college subjects were, and their examinations were much more demanding than those of their college counterparts were. None of the college subject were found to be adequately preparing learners for study at higher education institutions and therefore the courses were not equivalent (Umalusi, 2006). From the Umalusi study, which was conducted in 2006, it can be clearly seen that the academic qualification offered in schools was of a higher standard than its vocational counterpart offered in colleges.

In a quest to come up with measures to resolve some of the challenges with its vocational education, South Africa took part in a review that was conducted by the

Organisation for Economic Cooperation and Development (OECD) on vocational education and training in South Africa in 2014. The review was intended to come up with proposals for South Africa, which would draw from vocational education and training systems of other countries studied by the OECD (Field, Musset and Álvarez, 2014).

In its report the OECD remarked that the NQF has the potential of making the Technical and Vocational Education and Training system to be more transparent in order to enable students, employers and other stakeholders to visibly see the worth of different qualifications (Field et al. 2014: 9). This is important because in the same report it is noted that technical schools, which offered vocational programmes, are not well-regarded by learners and parents and are rather seen as institutions for weaker learners. Furthermore, the OECD report notes that according to global experience, lifelong learning and improved admission to higher level education can be enabled if frameworks are reinforced by robust methodology for assigning qualifications to levels, supported by major role-players as well as harmonising methods to unify the TVET system and enhance transitions (Field et al. 2014).

The problem of according different statuses (between academic and vocational) qualifications is not unique to South Africa. In Ireland, which is one of the countries implementing a National Framework of Qualifications (NFQ), they have a similar problem with two of their qualifications located between NFQ level 4 and 5. The Leaving Certificate Applied (LCA) is a school-based pre-vocational qualification offered alongside the Leaving Certificate Established (LCE), which is high stakes. The LCA in contrast to the LCE is getting a low level of public support and provides restricted progression to post-secondary opportunities (Gleeson and O'Flaherty, 2013), meaning that articulation with higher education is very restricted. LCA students who want to access higher education were not permitted to do so on the basis of their performance in the LCA; they had to first take the Post Leaving Certificate (PLC), which is not the case for LCE graduates who had instant access to higher education.

In his paper on the permeability between VET and higher education, Spöttl (2013) distinguishes between horizontal and vertical permeability. About horizontal permeability, he states that there should be opportunities for smooth transmission

between learning opportunities that vary in content but that are at the same level. He defines vertical permeability as “giving access to students irrespective of their prior learning programmes” (Spöttl, 2013: 456). The reason for creating a non-discriminatory access was to unblock the articulation system and improve throughput. The vocational qualifications can also be seen as a point of opening access to higher education in the German speaking countries (Spöttl, 2013). However, he further notes that in higher education, the existing curriculum structures have not been designed to meet the requirements for those students who are entering with vocational qualifications.

In the context of the United Kingdom, Fuller and Macfayden (2012) noted that vocational qualifications do not give access to higher education. That means there is a noted “lack of parity around various educational routes” (Fuller and Macfayden, 2012: 2). That situation led to the review of vocational qualifications in England for the age group 14 – 19. The review in 2011 aimed at reviewing vocational education in light of successful progression which leads to preparing students for the labour market or higher education and training (Wolf, 2011:19). This was a result of the realisation that vocational education in the country had changed from what it was 20 years ago.

Fuller and Macfayden (2012) studied the report of Civitas (2010) which indicated the shortcoming of vocational courses in particular, not being relevant to the job market, lacking academic rigor, and targeting skills that are related to low income jobs. The Wolf Report (2011) indicated that many of the vocational qualifications offered in the United Kingdom do not lead to work or prospects for further study in higher education. In their article, Fuller and Macfayden (2012) also refer to comments made by Fuller (2009); Ball, Maguire and Macrae (2000, 2003); Devine (2004) which found that young people from communities that are socially disadvantaged miss out on support and guidance from home which could enhance their academic achievement. The study concluded that the students who were participating in vocational courses in further education institutions have negative self-perception in terms of academic achievement.

Many countries in Southern African region including South Africa are facing challenges with its TVET system. In fact, Akojee, Gewer and McGrath, (2005)

conducted research in seven countries in Southern Africa, which included Botswana and Mozambique. One thing that was immediately evident in their study was that the field of vocational education and training in the Southern parts of Africa has been severely uncared for (McGrath, 2005). All the seven countries (Botswana, Lesotho, Mauritius, Mozambique, Namibia, Swaziland and South Africa) studied had inherited their VET systems from their colonial pasts which were based on the British system except for Mozambique which is a former Portuguese colony.

The first purpose of the study was to develop the knowledge base for policy and investigation on the abandoned subject of the VET systems of Africa. The second purpose of the study was to stimulate dialogue on VET issues within the region of Southern Africa with the intention of encouraging improved collaboration and sharing of knowledge among the countries. The third purpose was to build research capability in the area of VET which includes review on policy-driven practices (McGrath 2005).

In Botswana, students can enter the TVET system after either ten or twelve years of academic education. Some of the challenges identified in the TVET system of Botswana were regards to, parity of esteem and articulation, mobility and integration. About parity of esteem, in another report which the team called the Obok-Opok report, it was concluded that communities had low opinion on TVET qualifications and considered it as a “dumping ground for failures” (Akoojee, 2005, 21). Concerning articulation, mobility and integration, the identified need was that of mobility between various TVET institutions, as in South Africa, vocational qualifications are not accorded similar status as academic qualifications for access into higher education. Students who might have passed through the vocational route will still be required to have a senior secondary certificate if they want access into higher education.

The study concluded that Botswana’s VET system, which was still young and developing, was at the time going through reflection and transformation which was being implemented through developing policies that will make the system coherent. In the sector of TVET, the Ministry of Education was making an effort to improve the quality of delivery through the twin thrust of newly built state-of-the-art amenities at

the Gaborone Technical College and the new curriculum of the Botswana Technical Education Programme (BTEP). However, concerns were still being raised about the sustainability of these initiatives in the country and the practicality and the feasibility of spreading them to other areas outside of Gaborone (Akojee, 2005).

Unlike in South Africa where vocational education starts formally after completion of Grade 9, in Mozambique, technical education is spread across three levels which are elementary, basic and medium/institute levels. The entry requirement for the elementary level is Grade 5, for the basic level it is Grade 7 and for the medium/institute level it is Grade 10 and leads to a certificate that is equivalent to Grade 12. Even though learners have an opportunity of opting for the vocational pathway from as early as Grade 5, vocational education still faces major challenges in Mozambique. It was also noted that teachers in the technical schools were not properly qualified which was coupled by the lack of resources in the technical schools as well as imbalance between theory and practice. All these challenges have an impact on quality provision which results in a "high failure rate within the TVET system" (Mbele, 2005, 75) coupled by a high attrition rate.

Concerning Lesotho, (Magau, 2005) noted that it was a challenge knowing how to conclude the interpretation of the VET system of the country. During the investigation, it had appeared as though 2004 may have been the year when the development of a new policy occurred. However, after many years of deliberations and perceived breakthroughs, this could not be verified when the study was concluded, and the report printed. This is said with caution because global experience cautions that there is often a huge gap between policy pronouncement and its implementation. Therefore, it was concluded that there was a slowness of implementing the policy reform process in the country. Because of the clear presence of policy reform, there has been some fragmented adoption in areas like curriculum development.

The conclusion about Mauritius was that the country has faced two major challenges in the new millennium which are an increase in the unemployment rate and a constricting skills base. The historical labour market context is the reason for the skills crisis confronting the country whereby the skills base was focused on the

production requirements of the economy, which have subsequently moved. What worsens this situation is an ailing education system with low achievement rates at higher levels. At the time of the study, the country's education and training system was continuing to be channelled towards supporting occupational and technical skills for major economic sectors (Gewer, 2005).

In Namibia as noted by Mabizela (2005) in the comparative study of the seven countries, the study found that the country appeared to have undertaken an aggressive transformation of its VET system. This revealed an increasing recognition of the weaknesses of the system as it had been changing over time and a concern for the system to be rather focused on meeting the needs of socio-economic growth. The quality of curriculum delivery was unequal between the vocational offerings and the mainstream. Add to this that the VET system had been slow to transform. The VET system of the country had continued to be small and expensive; and yet it had been robustly centralised. It seemed like there was a scarcity of skills and the strategies for prospective economic growth were expected to worsen the situation of general unpreparedness on the part of the workforce. A double challenge of supporting both development and poverty alleviation strategies was confronting the VET system of the country. However, in the transformation process, the country exhibited a great deal of comparison with global trends. This was evident in the noted developments whereby a National Qualifications Authority was already in place and a National Training Authority was being developed.

On policy matters, the National Education Policy statement mentions closing the gap between the schooling and the world of employment and the need for schooling to sufficiently prepare school leavers for significant economic activity. Notwithstanding a varied number of key policies are in place, these appear to mainly operate as statements of intent or anticipated result. Nothing much had been done at the level of implementation, except the introduction of the prevocational curriculum, to provide for the set targets. One of the probable reasons for this was the difficulty of addressing a disjointed system of VET, which was overseen by various ministries whereby Education and Enterprise and Employment were responsible for most of the vocational and skills training that took place through formal institutions. This system of governance made it a challenge to develop a

shared, logical approach to the delivery of VET especially in areas where inter-ministerial cooperation did not occur regularly.

In the same comparative study, Akojee, Gewer, and McGrath (2005) which was conducted 10 years after the dawn of a new dispensation in South Africa, the study noted that in South Africa it became difficult to evaluate whether some components of the new TVET system were essentially weak or it was just the result of the system being young and delicate. Regardless of these, the study was able to identify some successes and failures of the first ten years of democracy within the TVET system in the country. The entire system of VET was focused towards harmonising economic and social goals and towards linking the academic and the vocational, as well as the theoretical and the practical. There was strong motivation also to develop both the quality and quantity of the VET system. Admissions and success rates in public TVET colleges were getting better and there were signs of improved collaborations with employers. There had been intense advancement on many of the National Skills Development Strategy (NSDS) indicators. However, at the time implementation showed significant weaknesses on issues of equity and redress despite the clear policy commitment on these matters. The NSDS was at its weakest on its equity goals, particularly for the disabled, and was far from meeting its objectives on employees with a minimum NQF Level 1 qualification.

The noted tensions that exists between vocational and academic qualifications in the studies of African countries may be emanating from the belief that “TVET is concerned with the acquisition of knowledge and skills for the world of work to increase opportunities for productive work, sustainable livelihoods, personal empowerment and socio-economic development” (Rupert and Wilson, 2009, xix). With regards to vocational education, pragmatism becomes the pre-dominant philosophy for TVET. Academic education on the other hand is rather perceived to include “the notions that ideas, concepts and theory should hold a more dominant place than preparing for a life role as worker and producer” (Rojewski, 2009, 21). These ideas and beliefs that trades that are founded on the use of one’s hands (i.e. manual) as being sub-standard to activities dependant more on the mind (i.e. mental) have long withstood in western cultures as noted in Billet (2014) by (Lodge (1947); Sennett (2008). These tensions become visible in the manner in which

opportunities are either provided or denied for progression into further study in higher education.

Some work has been done concerning investigating the various NQFs that are in operation in different parts of the world, since there are about 100 countries globally that are at different stages of either implementing or developing qualifications framework (Allais, 2010). Other countries like Botswana are in the process of developing one. A lot of research has also been done on the old eight-level South African NQF and its implementation but not so much yet on the new ten-level NQF. I have also looked at the nature of vocational and academic qualifications in different contexts like in the Republic of Ireland, Germany, and United Kingdom that clearly highlighted the tensions that exist between the two kinds of qualifications. The *Apples and Oranges?* study of Umalusi focused on preparation for higher education and the equivalence of vocational and academic qualifications in terms of knowledge and skills provided to learners but not so much on the possible articulation routes that are enabled by the two qualifications investigated. Therefore, what could not be established from the literature review is whether the review of the old eight levels SANQF and the subsequent introduction of the new ten level SANQF has had any effect on how vocational and academic qualifications are now perceived for articulation with higher education. Therefore, this study investigated the articulation of two NQF level 4 qualifications with higher education, one an academic qualification and one a vocational qualification.

## 2.7 OVERCOMING THE ARTICULATION CHALLENGES THROUGH BORDER CROSSING

This section is intended to provide an outline of the theory that will underpin my research: border/boundary crossing. Border and boundary crossing are often used interchangeably and for my research I used the term boundary crossing to also refer to border crossing.

### 2.7.1 Boundary crossing as a principle of providing access to higher education institutions

Institutions define themselves in terms of boundaries because the existence of boundaries has powerful effects on the identities and actions of the institutions

(Edwards and Fowler, 2007). According to Edwards (2012), consideration must be given to the work undertaken to generate fluid and receptive horizontal connections between practices that display a potential of enabling the crossing of boundaries from further education and training to higher education. For that reason, this study is going to make use of the boundary crossing theory to explore the question as to whether collaborations between practices can lead to successful articulation between further education and training and higher education qualifications. This is necessary because access into higher education institutions through articulation of qualifications is about boundary crossing. The significance of using this theory for this study lies in the collaborative exercise required to facilitate boundaries of intersection of practices in the pursuit of a common and shared purpose that considers the common knowledge embedded in the different qualifications.

It is noteworthy that Ackerman and Bakker's (2011) view of boundary crossing was initially premised against boundary crossing and boundary objects that determine insights into learning potentials of boundaries. They provide a description on the origins of the focus on boundaries and their learning possibilities in educational and related sciences. The boundary of a particular community constitutes some form of expertise in that area or participation in that specific area. Learning can be considered in terms of developing some form of identity which entails what is part of a particular individual and what is not yet part.

The specialisations and expertise that people are developing and gaining in specific areas lead to the impermeability of boundaries. The situation leads to challenges in education and work whereby the potential for collaboration in the diversified environments must be created. Thus, the term boundaries were created by scholars to enable them to better understand the challenges. For instance, Ackerman and Bakker (2011) view a boundary as a socio-cultural difference that leads to incoherence in action or collaboration. They make use of teacher education programmes that include periods of schoolwork as examples that entail boundaries. These differences would be between the students' teacher's pedagogical values and the socio-cultural differences reflected in the programme. Though both sites display differences, they also have commonality in the student teacher's learning process.

The theory of border crossing was popularised by Henry Giroux in the early 1990. This theory is about assisting students to “effectively cross borders and reach the highest possible levels of achievement” (Alston, 2004:1). Border-crossing is conceptualised by activity theorists (Beach, Tuomi-Grohn and Engestrom) as enabling knowledge transfer between academic and work knowledge process between different activity systems as stated by Garraway (2010). Boundary crossing compels the decentering and reconfiguration of educational knowledge so as to eliminate domination and exclusion (Giroux, 1992).

As applied in my study the theory holds that from the discourses on border crossing the negotiation and collaboration which are some of the principles of border crossing can effectively be fundamental in decentering the canon which can influence the design of qualifications. It becomes significant to have a collaborative exercise in pursuing a common and shared purpose that will consider the various principles in the design of qualifications, moreover because as noted by Giroux (1992), there are forms of knowledge, like knowledge acquired by means of vocational qualifications that have been marginalized by the official canons.

What is of interest to scholars of boundaries is the formation of continuity in the action and collaboration regardless of the socio-cultural differences which resulted in the two concepts of boundary crossing and boundary objects. Boundary crossing is explained as a person’s transitions and interactions across different sites, Suchman (cited in Ackerman and Bakker, 2011) indicates that boundary objects are described as artefacts doing the crossing by fulfilling a bridging function, (Star: 2011) in (Ackerman and Bakker, 2011).

Similarly, Garraway (2010) in dealing with knowledge boundary and boundary crossing focused on the curriculum content knowledge and teaching skills. There were curriculum meetings that focused on boundary crossing processes that occurred and why they occurred. These meetings were significant because there were forms of knowledge that have been marginalized by the official canons that were reviewed (Giroux,1992). These meetings were held at a South African University of Technology. Two of the meetings were for the engineering field and one for the field of chemistry. Interviews were also conducted with those

representing the two forms of knowledge. The interviews were intended to identify any existence of deep-seated challenges that may have an influence on the meeting processes. When no major differences of a historical nature were found, the matter was not pursued further.

Through the evaluation of the curriculum meetings, the intention was to address a complex challenge of the transfer of knowledge to either the workplace or the university. According to (Garraway, 2010), the difference between academic and work knowledge is a phenomenon that has been identified by various scholars including (Bernstein, 2000), (Eraut, 2004) and (Layton et al. 1993). The variance stems from the various contexts in which the knowledge is acquired and how distinct forms of knowledge are structured. Workplace knowledge is perceived to be context-bound and influenced by several imperatives. It may also be subjected to codification with little time for critical reflection and analysis which are high order cognitive skills.

Academic knowledge is perceived to be leaning towards codified academic knowledge. The academic knowledge is classified into academic subjects like science, engineering and medicine which are based on specific disciplinary knowledge. The difference in the structure of academic and occupational knowledge is also acknowledged by Bernstein (2000) in Garraway, (2010). He notes that the manner in which academic knowledge is framed entails abstract language and certain guiding principles (vertical knowledge structure) that create a challenge of integration with the work knowledge which is context-bound (horizontal knowledge structure). A lot of sifting occurs during the process of knowledge transfer between work and academic spaces, which may result in re-contextualised knowledge as cited by Layton (1993) in Garraway (2010).

What becomes important therefore, is how to find a middle ground in terms of bridging the variances that exists between the two distinct forms of knowledge. What emerged from the meetings was that power seemed to be at play where certain communities of practice would strongly want to assert their positions. However, a spirit of collegiality did exist because there were certain matters whereby there was agreement, and, in that instance, the matter would be put to rest and not explored further. In the same breadth there were areas of disagreement which entailed the

sandwich delivery model. The meetings did not only discuss matters of curriculum delivery, but they also evaluated the curriculum as was the case with the chemistry meetings whereby an academic chemistry curriculum was evaluated with a view to making it relevant to the demands of the work environment. That is when boundary-crossing is supposed to occur.

### 2.7.2 Enabling boundary crossing

What emerged from the curriculum meetings discussed in the previous section was that for boundary crossing to be effectively applied, some conditions must be satisfied. Firstly, the whole idea of boundaries develops "difference between knowledge in different communities of practice which under normal circumstances, prevents the easy passage of knowledge between communities" (Garraway, 2010: 217). When such differences are raised, a platform is provided for motivation to explore additional development within potential developmental spaces. Therefore, the identification of difference in knowledge in the various communities of practice often leads to trade-offs. That is one of the conditions for successful boundary crossing.

The second condition for enabling effective boundary crossing that emerged from the meetings is negotiation. This was evident in the development of work-responsive curriculum undertaken by various stakeholders identified in Garraway's (2010) article. In that article he provides an account of meetings that were taking place between the various stakeholders for the purpose of agreeing on the curriculum content that would satisfy academic and work needs because as Bernstein, 2000 notes in (Garraway, 2010: 211) that "knowledge in work and society is, by and large, differently structured from more academic discourse", thereby making it necessary for negotiations to take place for the development of an agreed upon integrated curriculum.

In its 2004 Report on the *Quality and Recognition in Higher Education: The Cross-border Challenge*, the OECD foregrounds three processes for enabling boundary crossing: quality assurance, accreditation of institutions and programmes and academic recognition. Even though the report is about cross-border education between different countries, the three processes can also be applicable to boundary crossing between school qualifications/TVET college qualifications and higher

education qualifications. The reason for that inference is that the receiving institution will want to satisfy itself that the students being admitted to the institution are in possession of an accredited qualification that has been through comprehensive quality assurance measures and that the institution offering a particular qualification satisfies the standard of basic quality (OECD Report, 2004).

In his article, Spöttl (2013: 454) identifies the need to clarify "the hidden obstacles of permeability between vocational and higher education and point out ways to shape lateral and vertical permeability with a view to career paths to build up human capabilities". Furthermore, he notes that the challenge of permeability is great between VET and higher education because of among other things, the different systemic structures. This is problematic because through their qualifications and the knowledge and skills they have acquired, students should be able to transfer between different learning environments. It is for that reason that he considers vertical permeability from vocational education and training to higher education to be significant because of its potential to enhance one's quality of life. He describes vertical permeability to mean "that all learners, irrespective of whether they are educated in vocational or academic programmes, have the opportunity to continue their studies in academic programmes at the tertiary level" (Spöttl 2013: 456). It should be possible for students to get access to higher education institutions whether they come from the vocational or academic pathways.

It is therefore imperative for the boundaries to be reconfigured in such a manner as to reflect the principles of the NQF and there is a need to make "efforts to create common knowledge at the boundaries of practices" (Edwards, 2011: 35). The existence of the boundaries results in exclusion on the basis of the type of qualification that one has achieved. For this study, the theory of boundary crossing was the lens which I used to determine if articulation was indeed occurring through the crossing of boundaries from schooling/TVET college education to higher education. During the analysis of the data I was guided by the need to determine if the two qualifications the NSC and NC (V) enabled the crossing of boundaries and whether the admission policies of the UoT were designed for the purpose of enabling articulation. The notion of boundary crossing therefore means that educational institutions, as microcosms of society may indeed require to enter into

dialogue, collaboration and negotiation of the kind which may result in the elimination of the boundaries. There is a need for interaction and collaboration across boundaries.

## 2.8 SUMMARY OF THE LITERATURE REVIEW

The key points from the literature review are that with regards to access into higher education institutions, internationally, students that intend to access higher education with vocational qualifications are not always able to articulate, as was evidenced in the study of the qualifications from the Republic of Ireland, United Kingdom and Germany. This could be attributed to the low esteem given to vocational qualifications. South Africa is not unique in that NQF level 4 qualifications in the country are benchmarked against the SC/NSC which is academic in nature.

The National Qualifications Framework is an international phenomenon and a policy that had to undergo some transformation of its own due to implementation challenges. This study observes that this resulted in the country moving from an eight-level NQF to a ten-level NQF. South Africa, like many other countries, followed the global trend by developing a qualifications framework, largely to address the imbalances of the past. The NQF was developed to regulate the “classification, registration, publication and articulation” (SAQA, 2016, 3) of qualifications. The NQF was meant to enable the integration of education and training through a comprehensible methodology to the development of qualifications. However, the NQF could not attain a joint system that made life-long learning possible. The articulation policy was also another policy initiative that was developed to address barriers that made transitioning from schooling/TVET colleges problematic for learners and students. The policy requires of higher education institutions to develop policies/guidelines that will facilitate articulation.

As applied in my study the boundary crossing theory holds that from the discourses on boundary crossing the principles of boundary crossing can effectively be fundamental in decentering the canon which can influence the design of qualifications. It becomes significant to have a collaborative exercise in pursuing a common and shared purpose that will consider the various principles in the design

of qualifications, moreover because as noted by Giroux (1992), there are forms of knowledge that have been marginalized by the official canons.

South African education has transformed over the last 20 years to provide various pathways that should allow for any existing boundaries to be re-configured in order to facilitate ease in crossing boundaries to either employment or further study. Educational institutions and the qualifications offered in the institutions must therefore reflect that composition and re-orientation. The resistance from the realities of surrounding dynamics and circumstances is complicated and false.

## 2.9 SUMMARY OF THE CHAPTER

In this chapter I explored the literature that provided more understanding on access to higher education institutions in South Africa. I also studied the literature that provided the history of the development of the National Senior Certificate (NSC) and the National Certificate (Vocational) (NCV) as two new NQF level 4 qualifications offered post 1994. Furthermore, I explored the literature that provided a clear view on the alignment between policy intentions and policy implementation. By design, I delved into the challenges associated with articulation, vocational qualifications and the perceptions around vocational qualifications. I concluded the chapter by detailing the theory that underpinned the study.

The next chapter focuses on the discussion of the methodological aspects of this study. Of necessity, the chapter will also provide an outline of the ethical considerations and the issues of trustworthiness of the study. The limitations and delimitations of the study also discussed.

# CHAPTER 3

# RESEARCH APPROACH, DESIGN AND METHODOLOGY

## 3.1 INTRODUCTION

In chapter 2, I sought to explore the literature that would provide more insights into access to higher education in South African higher education institutions. I also explored the literature on the development of the National Senior Certificate (NSC) and the National Certificate (Vocational) (NCV). In addition, the literature review provided more insight on the alignment between policy intentions and policy implementation. I have also discussed the challenges associated with articulation, vocational qualifications and the perceptions of various international communities regarding vocational qualifications. I concluded the chapter by discussing the theory that underpinned the study. This chapter goes further to provide an outline of the research design that is used for this study, especially the research paradigm, approach, design and data collection methods. The research sites, sampling procedures and the research sample are also presented. It gave me the opportunity to justify the sampling method followed hereunder as well as the characteristics of the sample. In the last section of this chapter, I define the ethical considerations in this research and the measures that I employed to make the findings of this study trustworthy.

## 3.2 RESEARCH PARADIGM

This study is grounded in an interpretivist approach. I chose this paradigm because of its focus on operating within distinguished ideologies concerning what it means to do educational investigation with people, meaning that every educational investigation has to be entrenched in the experiences of people (Coleman, 2012). The experiences of people are often subjective and shared meaning is used by people in reconstructing their social world and the manner in which they interact and relate with each other (Jansen, 2003). The assumption being made has relevance to my study, which is driven by the curiosity to investigate the experiences of the participants concerning the truth of what is transpiring at the boundaries of intersection between NQF level 4 qualifications and higher education qualifications

for enabling access into higher education. My intention was to explore how the higher education stakeholders who are tasked with processing applications from prospective students interpret the admission policies of the institutions and the pass requirements of the NSC and the NC (V) as NQF level 4 qualifications.

This is because, for interpretivists, the truth is not out there as a combination of exterior phenomenon waiting to be discovered (Coleman. 2012); it is a paradigm in which people comprehend their truth in various means. I followed interpretivism as a research paradigm because of the emphasis it places on the value of human interpretation of the societal world and the significant role of both participants' and investigators' clarifications and comprehension of the phenomenon under investigation. (Ormston, Spencer, Barnard and Snape, 2014). According to (Ormston et al. 2014), Wilhelm Dilthey is one of the major catalysts of the interpretivist approach and he emphasised the value and significance of understanding and of studying the actual lived experiences of people as it happens within certain contexts. Hence, I had to conduct interviews with the higher education stakeholder and TVET stakeholders for me to have better insights of their truth and lived experience on how they understood the two qualifications under investigation.

## 3.3 RESEARCH APPROACH

I chose the qualitative approach for this study because researchers like Lewis and Nicholls (2014), regard qualitative research as a naturalistic, interpretive methodology that is focused on exploring phenomena from the interior and in considering the perspectives and explanations of participants as a point of departure. My intention in this study was to describe and get an understanding of how the higher education institution stakeholders enable access for students who apply with both academic and vocational qualifications, rather than quantifying the data. For me to be able to get that understanding, I had to conduct interviews which were transcribed into text and commensurately analysed policy documents – these specific methods of generating data have been recognized as being aligned to qualitative research (Lewis and Nicholls, 2014).

## 3.4 RESEARCH DESIGN

For Yin (2012) the main objective of research design is to assist the researcher to evade a condition in which the data gathered is not addressing the primary research question. He further refers to a research design as a 'blueprint' for one's investigation. The research design found apposite was the cases study. The strength of a case study is mentioned as creating the opportunity for the researcher to be where things are happening, taking evidence from and witnessing the participants first-hand (Bassey, 2012). Case study design is characterised by seeking in-depth understanding of a situation or phenomenon and making sense of the data (Merriam,1998). A case study has boundaries within which the research is located which could be in terms of time or place (de Vos, Strydom, Fouché and Delport, 2005). If anything, Merriam's definition is more aligned to my study because of my focus on qualifications which can represent the programme in her definition, the two institutions which were the focus of my study and the admission personnel as well as admission processes. The bounded context is the site of investigation which constituted of the UoT and the TVET college. Accordingly, the unit of analysis were the two qualifications, the NSC and the NC (V) and their policies.

This case study explores the process of articulation focusing on a University of Technology and a TVET college. I used a case study because of its strong association with qualitative research and its potential for enabling the exploration of various viewpoints which are grounded in specific contexts (Lewis and Nicholls, 2014). These various viewpoints may come from the various participants and the data itself. With the use of case studies in the identified multiple sites, the intention was to gain an understanding of how the two qualifications are being used as gateways to higher education.

For this particular research the issue of context was very relevant because initially the case studies were based on multiple sites which entailed different sites (a traditional university, a University of Technology and a TVET college). What I had not anticipated was that the different contexts were going to pose different challenges as discussed in the section on limitation of the study. My hope was that, through the use of case studies, opportunities to learn would be created and an

understanding of how the identified higher education institutions enable border crossing from further education and training qualifications to provide access to higher education qualifications. A case study was relevant for my research because of its potential to provide a rationalization for the selection of a specific case that is aligned to the objectives of my research (Maxwell, 2013).

### 3.5 RESEARCH SITE AND SAMPLE

The research sites included one University of Technology and a Technical and Vocational Education and Training (TVET) college. A traditional university which ended up not being part of the study was sampled because it is one of the higher education institutions that are in proximity to my work and home and also because it is one of the institutions with which those leaners who have successfully completed one of the two qualifications can articulate into. However, I sampled the University of Technology because it is the only one in the province in which I reside, and it is also one of the institutions that admit learners who have successfully completed one of the two NQF level 4 qualifications. I proceeded to sample the TVET college campus because it offers the NC (V) and is a campus that focuses on engineering programmes. These research sites were chosen because the two higher education institutions are supposed to be the recipients of the learners who successfully complete the NSC/NC(V). The TVET college was selected because it is the institution that is producing the learners from the vocational qualification. For this particular research endeavour, the case to be studied was the articulation of academic and/or vocational engineering qualifications with higher education engineering qualifications.

The sampling method used in this study is non-probability purposive sampling as well as convenience sampling. At the University of Technology, incidentally the only higher education institution that granted me approval to use it as a research site—the participants were five staff members from the student academic administration departments who are responsible for handling student applications, one policy maker who is the Deputy Registrar and two lecturers offering some engineering programmes. In total eight participants took part at the University of Technology. The staff members from the academic admissions office were selected because of their involvement in the process of admitting learners who have completed the NQF

Level 4 qualifications, who then apply for further study at the university. These staff members are key in the implementation of the admission policies of the institution. The Deputy Registrar was selected because of his involvement in the processes of the development of the admission policies of the institution. At the TVET college the participants were one academic head of the NC(V) and five lecturers responsible for offering the NC(V) engineering programme. In total 6 participants took part in the study from the TVET college.

## 3.6 DATA COLLECTION METHODS

Various data collection methods which are discussed below were used. In selecting the methods, I was conscious of the significance of ensuring the existence of a relationship between my research question and the data collection methods and how these methods could be triangulated (Maxwell, 2013). Selecting and using the right data collection methods cannot be overemphasized because the methods are the means through which a researcher like me is enabled to generate data that answers the research questions in this study (Maxwell, 2013).

*Interviews*

Data was generated by doing individual face-to-face semi-structured interviews. This study endorses the view that, at base, an interview is an interchange of views between two persons on a mutual topic of interest (Brinkmann, 2013). By the same token, interviews are oral communications and personal articulated accounts of people who have experienced a particular phenomenon (Lewis and Nicholls, 2014). This method was selected because of its main feature of enabling in-depth focus on the individual being interviewed and because of its conviction that participants are individuals who are actively involved in constructing their social world and are thus able to communicate their understanding of it in a verbal manner (Lewis and Nicholls, 2014). In a deliberate fashion, Lewis and Nicholls (2014) outline the following as some of the benefits of using individual face-to-face interviews; firstly, they provide a chance for thorough examination of each person's individual perception for in-depth comprehension of the individual context within which the research phenomenon is based and for very comprehensive coverage of the subject. Secondly, they are the recognizable technique to gather data when it is

essential to set the viewpoints received within the context of individual account or experience.

There is, however, some criticism about viewing interviews as the unimpeachable epitome of data collection method for qualitative research. One of the disadvantages of interviews is the tension that exists between the quest for acquiring information and ethical considerations for the interviewee as expressed by (Brinkmann, 2013). Ethical considerations must be noted and acted on in such a way that the researcher is committed to keeping the identities of the participants anonymous and to ensuring confidentiality. Another issue is that of the balance of power between the interviewer and the interviewee whereby the interviewer is seen as being in control of the direction and focus of the interview (Coleman, 2012). I overcame this hurdle by having consent forms to handout t the participants. I requested every participant to read the consent form before starting the interview. I also made sure that they understood the contents of the consent form before they signed it. Participants were also informed that they could withdraw from the interview at any moment when they did not feel comfortable with the questions being asked. Regardless of the criticism, according to (Lewis and Nicholls 2014) interviewing is still the fundamental and effective qualitative data collection method.

Eight participants from the University of Technology and six participants from the TVET college were interviewed. The interviews with the TVET college staff were conducted at the TVET college in one of the boardrooms. The interviews were conducted in December 2016. The shortest interview was about 21 minutes and the longest was about 50 minutes. At the UoT the interviews were held at one of the boardrooms with the admission staff and at the offices of the lecturers with the lecturing staff. The interviews were held in 2017. The shortest interview was about 15 minutes and the longest was about 29 minutes. The interview data was gathered after the participants had given their consent for participation by completing consent forms. All the individual interviews were recorded using an electronic recording device and then transcribed for the purpose of analysis.

*Document analysis*

The document analysis was used as a second layer of generating data because articulation relates to qualifications, which are captured in policy documents. Documents are essential because they offer confirmation that describes the particulars of our individual and professional lives, as aptly observed by Fitzgerald (2012). These documents which were collected from the DHET which included legislation and regulations, policies, guidelines, departmental circulars, departmental memoranda and speeches of the Ministers of Education form a critical part of the study because they were secondary sources of data. It is instructive that Fitzgerald (2012) insists that consequently, documents from schools, colleges and universities have the potential to offer valuable data about the perspective and culture of these establishments. Therefore, from the UoT, the admission policy of the institution and the prospectus were analysed.

One of the advantages of using document analysis method is that it is the only method in which it is not necessary for the investigator to have any personal interaction with any participants (de Vos et al. 2005). Some of the documents like the lists of enrolled students from the University of Technology were not easily accessible because of the confidential student information they contained.

Making use of the two methods mentioned above allowed incredible opportunity for triangulation of the data and as such I was able to triangulate the research findings (de Vos et al. 2005). For the University of Technology, the admission policy documents were used as a way of triangulating the interview data. The interviews were also a form of validating whether the admission policies used, are being implemented as intended. This data collecting methods indicated above resulted in the generation of what Babbie and Mouton (2009) call textual data.

## 3.7 DATA ANALYSIS

The data used in this study included transcripts from the interviews, the notes I took during the interviews and the content of the policy documents. The first step in the analysis of data entailed documenting the transcripts from the interviews and field notes. Documenting the data is an important aspect because it offers a way of improving and outlining the critical process and it inspires constant conceptualising

and planning about the transcript (Schutt, 2012). About the recoded interviews, this process of documenting the data began with transcribing the audio interviews. Concerning the analysis of policy documents, the process began with reading through each policy document while making notes.

The data was analysed through the process of thematic analysis. I take recourse in Floyd's (2012) elegant description of thematic analysis as the organized identification of essential themes in materials. In this instance the material are the transcripts from the interviews. This is prepared by developing a system of coding that will effortlessly allow the development of categories that can be utilised to construct inferences (Coleman 2012). As part of the analysis, as I read through the interview transcripts, I wrote notes about my understanding of the text and how it might relate to other issues. Reading is an essential part of analysis as it gives the researcher a broad view of the data (Schutt, 2012). This process of reading and interpretation of the data assisted me in identifying sub-themes that aligned with the research questions. The second step in the analysis entailed the categorisation of the data into sub-themes which were developed from commonly expressed issues by the participants as they answered the research questions. The sub-themes were merged into themes that corresponded with the research question.

## 3.8 TRUSTWORTHINESS OF THE STUDY

In qualitative research, validity refers to trustworthiness, credibility or transferability of the research. Trustworthiness has to do with the researcher being able to persuade the readers that the findings can be trusted (Babbie and Mouton, 2009). In doing so, it is absolutely necessary to pay attention to strategies such as credibility, audit trail, and transferability. The following strategies were applied to ensure the trustworthiness of the research findings:

*Credibility*

The credibility of this research was ensured by truthfully identifying and describing the matter under investigation. The research methods (data collection tools and data analysis tools) that were used were successfully applied in other research before and have proven to be credible. It was imperative for me to familiarise myself with the cultures of the organisations first before I began collecting data because it was

important to get insight into the contexts of the various institutions. I went on to the websites of the institutions to get more information on the organisational structures of the institutions. This was important because I had to know the relevant people that I needed to communicate with. In addition, I also read the general information booklets of the higher education institution just to familiarise myself with the higher education landscape because it was unfamiliar to me. The TVET college was not unfamiliar because in my line of duty I had been working with TVET colleges. I just had to familiarise myself with the specific campus that I had sampled as my research site.

Through making use of multiple methods (interviews and document analysis), it was possible to triangulate the findings of this study. I also triangulated within the various questions by interpreting what the different participants said about the same question. Triangulation of the research data assisted me to validate and cross-check my findings because the shortcoming of one data collection tool could be compensated by the strength of another data collection tool. Triangulation had the potential of decreasing the shortfalls of a one-method study.

*Audit Trail*

In the best interests of traceability and corroboration, I painstakingly laboured to describe the process, the schedule of interaction with the participants, collection of the data, the analysis and interpretation thereof, all of which assisted to set clear boundaries for the study. Keeping a trail of the research methods and process enables readers who have interest in the research to validate or challenge the findings of the study. I also requested an expert who is familiar with the topic being investigated to do an audit of the study and provide comments which I attended to enhance trustworthiness of this study.

*Transferability*

I provided detailed information on the contexts of the sites from which data was collected to ensure that any interested reader is able to make connections, where applicable, and so decide on possible transferability of the research findings. Achieving transferability was not easy because the transferability of the findings was not up to me but is dependent on other users of the product of the study.

## 3.9 ETHICAL CONSIDERATIONS

Considering ethical issues within qualitative research can be challenging because it underpins the relationship that a researcher develops with the participant (Webster, Lewis and Brown, 2014). As a researcher I have a duty of care regarding my relationship with the participants. For that reason, I made sure that I guaranteed the participants' (institutions and individuals) anonymity to protect their integrity. I prepared information leaflets and confidentiality forms which were signed by the participants before engaging them in any interview (attached as Annexure C). I also assured them through the confidentiality forms, that their privacy and sensitivity will be protected. In the confidentiality forms. I further indicated that as a researcher, I am always required to adhere to certain ethical principles.

I obtained permission from the two institutions that were involved in this study. The participants of the two institutions that granted me permission to conduct the research gave their approval and consent before I began with the interviews and collection of documents. Information leaflets and letters of consent with detailed information about the study were prepared and given to each participant to sign, giving consent to participate in the study.

The participants were made aware that participation in this study was voluntary and that they were under no obligation to participate if they did not want to. They were informed before the start of the interview that they can withdraw from the research at any time if they want to. The participants were also informed that through their participation, they could also benefit by being given the opportunity to reflect on their practices as well as thinking about the strategies that they can use in addressing the existing challenges in their institutions that they shared with me.

It was important to respect and gain the respect of the participants. This could only happen if there was a relationship of trust between the participants and myself. Creating a safe environment for the participants was one way of developing trust between the participants and me in this study. Fortunately, the interviews took place in their familiar work environments, which resulted in the participants being comfortable and unthreatened during the interview. I used appropriate communication strategies that were premised on respect for the participants. The

role of each participant was clarified to ensure that respect prevails. I did not experience any withdrawal from the participants who gave consent to participate in this study. I had to explain to the participants before and after the interview, what the data was going to be used for and how it will be protected so that it is not accessible to other people who are not authorised to have access to the data.

## 3.10 SUMMARY OF THE CHAPTER

This chapter discussed the research approach, research paradigm and research design that I used for my particular study. The research site, sampling procedures and the sample are presented in this chapter. I provided the justification for selecting the research sites and the sampling method used. It was also significant to provide the details of the data collection methods that I used. In addition, this chapter also described the data analysis methods used to make sense of data collected through interviews and from documents. The chapter also outlined the ethical considerations that underpin the research and the measure that I employed to make the findings trustworthy. In the next Chapter, I proceed to provide information on the research findings. I have also extensively discussed the findings as they relate to literature and the theoretical framework marshalled throughout this study. The findings will be outlined in the form of themes and sub-themes. after providing the biographical details of all the participants.

# CHAPTER FOUR

# RESEARCH FINDINGS AND DISCUSSION

## 4.1 INTRODUCTION

The previous chapter provided a broad canvas of the research approach, research paradigm and research design marshalled for this research. Information on the research site, sampling procedures that were used and the sample were presented in the chapter. Furthermore, the justification for selecting the research sites and the sampling method used were also provided, as well as the details of the data collection methods that were used. This chapter also provided information on the data analysis methods. Ethical considerations that underpin the research and the measure that I employed to make the findings trustworthy are discussed in the previous chapter. This chapter presents the research findings and the discussion of the findings such as these relate to literature and theoretical framework. The findings are presented in the form of themes and sub-themes after providing the biographical details of all the participants. A table showing the link between the research questions and interview questions is also provided.

## 4.2 BIOGRAPHICAL INFORMATION OF THE PARTICIPANTS

**Table 5: Biographical information of participants**

| | Participant | Gender | Age | Codes |
|---|---|---|---|---|
| **University of Technology** | Admissions Officer 1 | Female | About 30 | UoT Admin1 |
| | Admissions Officer 2 | Female | About 30 | UoT Admin2 |
| | Admissions Officer 3 | Female | About 30 | UoT Admin3 |
| | Admissions Officer 4 | Female | About 25 | UoT Admin4 |
| | Admissions Officer 5 | Female | About 30 | UoT Admin5 |
| | Deputy Registrar | Male | About 45 | UoT DR |
| | Lecturer 1 | Male | About 30 | UoTL1 |
| | Lecturer 2 | Male | About 50 | UoTL2 |
| **TVET college** | Head of Department for Engineering Programme | Male | About 55 | TVET HOD |
| | Lecturer 1 | Male | About 40 | TVETL1 |
| | Lecturer 2 | Male | About 45 | TVETL2 |
| | Lecturer 3 | Male | About 45 | TVETL3 |
| | Lecturer 4 | Male | About 45 | TVETL4 |
| | Support Services Staff | Female | About 40 | TVETSS |

## 4.3 RESEARCH QUESTIONS AND INTERVIEW QUESTIONS

**Table 6: Research Questions and Interview Questions**

| | Research Questions | Interview Questions |
|---|---|---|
| **Q.1** | How do higher education stakeholders evaluate a vocational and an academic engineering qualification on NQF level 4 for the purpose of enabling articulation with higher education engineering qualifications? | 1.1 To what extent do higher education admission policies enable access into higher education? |
| **Q.2** | What measures have higher education stakeholders put in place to ensure equal opportunities of access for holders of a vocational and academic engineering qualifications on NQF level 4 for enabling articulation? | 2.1 What measures are set up by the university to communicate and provide the understanding of the admission policy by potential students?<br>2.2 How does the development of admission policies promote access into the higher education institutions?<br>2.3 What measures have been put in place to ensure that the students who have successfully completed the NC (V) do get access into university? |

| | Research Questions | Interview Questions |
|---|---|---|
| | | 2.4 What collaborations are there between the university of technology and other student-exit institutions that are producing these students |
| **Q.3** | What are the main considerations for enabling access into higher education for those with NQF level 4 qualifications? | 3.1 What kind of subject combinations do you consider when admitting learners to engineering related qualifications?<br>3.2 Which qualifications do you consider as the most important to enable access into engineering qualifications offered by the university?<br>3.3 What are the main things considered in terms of the prior qualifications when placing potential students in the different engineering courses<br>3.4 What kind of differentiation is made between vocational qualifications like the NC (V) and academic qualifications like the NSC?<br>3.5 What are the examples of a successful application from a TVET college?<br>3.6 What advice is considered when students are being admitted into the college in terms of the articulation pathways?<br>3.7 How do you prepare your NC (V) learners to be ready for higher education? |
| **Q.4** | What challenges are encountered by students that make it difficult for them to articulate with higher education institutions? | 4.1 What are some of the reasons that may determine the non-admission of a prospective student?<br>4.2 What are the challenges that NC (V) students might encounter when they want to enter higher education?<br>4.3 Are you aware of any NC (V) engineering students that might have been denied access into higher education institutions? If yes, what are some of the reasons given for their non-admission? |
| **Q5** | How do higher education institutions implement their admission policies and the national policies of the National Senior Certificate and the engineering National Certificate (Vocational) qualifications? | 5.1 How does the institution communicate the policies that enable admission into the institution?<br>5.2 What is the role played by TVET colleges in the development of higher education admission policies?<br>5.3 How does the institution ensure the alignment of the admission policy of the institution to the national policies? |

## 4.4 RESEARCH QUESTION, THEMES AND SUB-THEMES

**Table 7: Research Question, Themes and sub-themes**

| Research Questions | Themes and sub-themes |
|---|---|
| 1. How do higher education stakeholders evaluate a vocational and an academic engineering qualification on NQF level 4 for the purpose of enabling articulation with higher education engineering qualifications? | **Theme 1**<br>The evaluation of NQF level 4 vocational and academic engineering qualification by higher education stakeholders for the purpose of enabling articulation with higher education engineering qualifications<br>**Sub-theme 1**<br>The extent to which higher education admission policies enable access into higher education<br>• Determining the subjects required for accessing engineering qualifications<br>• Determining the pass levels required for the required subjects<br>• Setting entrance requirements for enabling articulation |
| 2. What measures have higher education stakeholders put in place to ensure equal opportunities of access for holders of a vocational and academic engineering qualifications at NQF level 4 for enabling articulation? | **Theme 2**<br>Measures set up by higher education stakeholders to ensure equal opportunities of access for holders of vocational and academic engineering qualifications at NQF level 4.<br>**Sub-theme 1**<br>Measures set up by the university to communicate and provide the understanding of the admission policy by potential students:<br>• Use of electronic media (Information available online and on website, APS calculator online)<br>• Paper-based information (Booklets and Prospectus)<br>• Personal contact (Recruiters, Information booth, Information center, Information officers)<br>**Sub-theme 2**<br>The development of admission policies to promote access into the higher education institution: |

| Research Questions | Themes and sub-themes |
|---|---|
| | • Minimum pass mark<br>• Subjects required for access<br>• Subject combination<br>• Policy guidelines that promote equal access opportunities<br>**Sub-theme 3**<br>Measures put in place to ensure that the students who have successfully completed the NC (V) do get access into university:<br>• Collaboration (Memorandum of Understanding with UoT, liaising with universities)<br>• Advice (Providing information on admission requirements, providing information on which institutions to apply at<br>• Future perspectives as motivation (Job opportunities, Self-employment, Entrepreneurship, Fit in the workplace)<br>**Sub-theme 4**<br>Collaborations between the university of technology and other student-exit-level institutions that are producing these students<br>• TVET initiated relationship with local UoT<br>• Existing MoU with UoT<br>• Relationships with schools but not with TVET colleges<br>• Relationships with both schools and TVET colleges. |
| 3. What are the main considerations for enabling access into higher education for those with NQF level 4 qualifications? | **Theme 3**<br>The main considerations by higher education institutions for enabling access into higher education for those with NQF level 4 qualifications.<br>**Sub-theme 1**<br>The kind of subject combinations considered when admitting learners to engineering related qualifications:<br>• Subject combinations (English, Mathematics, Physical Science/Applied Technology) |

| Research Questions | Themes and sub-themes |
|---|---|
| | • Pre-requisite for access into engineering (Science)<br>• Combinations are not important, but the subject required per qualification<br>• Other subject requirements<br>• English, Maths and Physical Science/ for NC (V)<br>• English, Physical Science or Engineering Science and Maths<br>• APS requirements<br>**Sub-theme 2**<br>The qualifications considered as the most important to enable access into engineering qualifications offered by the university:<br>• Senior Certificate, NSC and N3 with the languages or any equivalent qualification<br>• Equivalence of qualifications<br>• No qualification is more important than the other (Meeting requirements is important).<br>• Parity of esteem for all qualifications<br>• Meeting entrance requirements is important<br>**Sub-theme 3**<br>Factors to consider before admitting students for engineering:<br>• The three required subjects for the NSC and/or NC (V)<br>• An NSC/NC (V) pass at the level of endorsement (Bachelor's or Diploma pass)<br>• Evaluation of NQF Level 4 qualifications<br>**Sub-theme 4**<br>Differentiation between vocational qualifications like the NC (V) and academic qualifications like the NSC.<br>• Vocational qualification<br>- Employment opportunities from vocational qualifications<br>- Vocational associated with TVET colleges |

| Research Questions | Themes and sub-themes |
|---|---|
| | - Higher entrance requirements for the NC (V)<br>- Vocational is for school drop-outs so that they can improve their chances to access universities<br>- Vocational is career focused<br>- Vocational has theory and practical component<br>- Specialization in vocational stream.<br>• Academic qualifications<br>- Academic is associated with schools<br>- Theory only for academic<br>- Academic is focused on university preparation<br>- Non-specialization in academic<br>• Differences/Similarities<br>- No differences – similar pass levels (Bachelor's, Diploma)<br>- Different names of subjects and different rating scales<br>- Differentiation accommodates various capabilities<br>- Various options should be provided for proper career decisions<br>**Sub-theme 5**<br>Successful application from a TVET college:<br>• An example of a friend<br>• Examples of NC (V) students who were allowed access<br>• Given opportunity though not meeting all the requirements<br>• An example where conditional access was granted<br>**Sub-theme 6**<br>The advice considered when students are being admitted into the college in terms of the articulation pathways:<br>• The minimum requirement for the programme |

| Research Questions | Themes and sub-themes |
|---|---|
| | • Duration of the programme (Customised advice provided during registration<br>• Overview of the NC (V) qualification<br>• Articulation opportunities with higher education or employment opportunities (self-employment opportunities, variety of vocational qualifications offered by the TVET college)<br>**Sub-theme 7**<br>Preparation of NC (V) learners to be ready for higher education:<br>• Motivation (encouraged to aim higher than the minimum pass requirements of the NC (V), hard work encouraged for better results)<br>• Student support (consistency in working hard for the 3-year duration of the NC (V)<br>• Intervention programmes and Identifying students that show potential to study further |
| 4. What challenges are encountered by students that make it difficult for them to articulate with higher education institutions? | **Theme 4**<br>Challenges encountered by students that make it difficult for them to articulate with higher education institutions:<br>**Sub-theme 1**<br>Reasons that may determine the non-admission of a prospective student<br>• Minimum entrance requirements in terms of academic criteria<br>- Not meeting the APS requirements<br>- Not having the required subjects<br>- Not passing the admission test<br>• Logistical reasons<br>- Applying late<br>- Quotas system that determines the numbers to be admitted<br>**Sub-theme 2**<br>Articulation to higher education challenges encountered by NC (V) students<br>• Non-recognition of the NC (V) |

| Research Questions | Themes and sub-themes |
|---|---|
| | • Low standard of the NC (V) due to low pass requirements<br>• Inadequate marketing for the NC (V) qualification<br>• Inadequate marketing for access to HEIs<br>**Sub-theme 3**<br>Knowledge of NC (V) engineering students that might have been denied access into higher education institutions and the reasons:<br>• Post-qualification intervention by the institution<br>- No information from TVET college<br>- No communication with past students<br>- No follow-up exists<br>• No record keeping by the TVET college<br>• Entrance requirements<br>- not passing at the correct level<br>- late applications<br>• Quotas system of the university |
| 5. How do higher education institutions implement their admission policies and the national policies of the National Senior Certificate and the engineering National Certificate (Vocational) qualifications? | **Theme 5**<br>Implementation of the higher education institutions admission policies, the national policies of the National Senior Certificate and the engineering National Certificate (Vocational) qualifications.<br>**Sub-theme 1**<br>The policies that inform your practices as admission officers:<br>• Booklets and prospectus<br>• Internal procedures and rules<br>• Regular updates through workshops<br>**Sub-theme 2**<br>The role played by TVET colleges in the development of higher education admission policies<br>• Participation through task teams<br>**Sub-theme 3**<br>The alignment of the admission policy of the institution to the national policies |

| Research Questions | Themes and sub-themes |
|---|---|
| | • Policy relationships between the DHET and the universities<br>• Alignment of university policies with CHE and DHET policies<br>• Policy guidance provided by CHE and DHET on policy implementation |

## 4.5 RESEARCH FINDINGS

This section provides a detailed discussion of the themes and sub-themes that emanate from the analysis of the research questions and interview questions.

### Theme 1: The evaluation of NQF level 4 vocational and academic engineering qualification by higher education stakeholders for enabling articulation with higher education engineering qualifications

This theme discusses the findings of the question on how the higher education institution evaluates the NSC, an academic qualification, on the one hand, and the NC (V), a vocational qualification, on the other, for enabling access for potential students who apply with these qualifications.

#### *Sub-theme 1: The extent to which higher education admission policies enable access into higher education*

The findings of this study show that the higher education institution that participated in this research has developed admission policies that are used in the process of evaluating the NSC and the NC (V) qualifications for enabling articulation with engineering qualifications for potential students. The admission policy determines the subjects that are required by potential students for enabling access into engineering qualifications. Some of the participants in the study said:

> *Requirements first, and then whatever that you will be studying about you will be looking at the subjects that are needed at the university. (TVETL3)*

> *So, their uhm their marks must just be high enough to reach the double-scoring and they must have the requirements, the required subjects. (UoT Admin1)*

It appears that, by developing the admission policy, which determines the required subjects, the institution was making it possible for both NSC and NC (V) applicants to have opportunities of articulating with engineering qualifications in the institution. Furthermore, in order to enable articulation for NSC and NC (V) applicants, the admission policy developed by the higher education institution in this study was used to provide for determining the pass levels required for prospective engineering students to get access into engineering programmes.

> *There's your level, remember now with matric results, there is level 1, level 2, level 3 so, with engineering the requirements are a bit higher. We are looking at your from level 4, your English has to be a level 4 and then there is 5s for Maths and Science and then for extended programmes we are able to take you if you got your 4s in Science and Maths. But, English there is no exceptions it definitely has to always be on a 4. Ok, then there is the L4s. L4s we want 60% all of your subjects. (UoT Admin 3)*

> *We also check if all those individual subjects they do meet the requirements irrespective whether it's a vocational one, which is L4 or whether it's actually the normal NSC. (UoT Admin 5)*

From the above findings, it appears that presenting the required subjects alone does not necessarily guarantee access into the institution; the potential students are still required to pass those subjects at a level determined by the institution. This is notwithstanding the fact that there are minimum pass requirements for each of the two qualifications.

The findings also suggest that the institution seems to have a prerogative of setting its own entrance requirements for enabling access into the institution. These entrance requirements are stated in the admission policy of the institution for all the various engineering qualifications offered by the institution. If potential students meet those minimum entrance requirements, then they have an opportunity of getting access into the institution as stated by one participant who said:

*If they, they pass very well, and they meet the minimum requirement, it will work for them, the only challenge it's when they can't make it. For those who are making it and meet the varsity requirement, admission requirement, I believe that they can still be admitted because the, as per my observation, there are those who pass and who pass very well. (TVETSS)*

Clearly the institution has set minimum entrance requirements to be able to accommodate a targeted number of students. This is because higher education institutions can only accommodate a particular number based on their enrolment targets. If they do not do that, they run a risk of being unable to control or handle the influx of students.

In a study conducted by the South African Qualifications Authority (SAQA) titled *Articulation between TVET colleges and HEIs: National Articulation Baseline Study Report* published in 2017, it was found that some higher education institutions have developed inclusive admission criteria, which enables higher education institutions to admit learners with NSC and NC (V) qualifications. What is revealed in the current study is that one of the institutions has developed admission policies, which sets out the minimum admission requirements for enabling access into the institution for those with an NSC or an NC (V) qualification.

In the findings encapsulated in a study conducted by Mashongoane (2015) as part of fulfilling requirements towards a PhD, the NC (V) provided the progression opportunities, which were towards further study or employment. Mashongoane, (2015) also found that NC (V) was an alternate pathway to university that enables the NC (V) learners to register at a university after completion of their studies. A similar finding has emerged from this study, which confirmed that NC (V) is indeed recognized for enabling access into the institution under investigation. This is evident in the consideration of the qualification that was being evaluated for enabling access.

The analysis of the admission policy of the UoT also reveals that the institution has policy intentions to enable access into the institution. This is made clear by the availability of the admission policy that has been developed by the institution, which

serves as a vehicle through which the institution enables articulation between both NQF level 4 exit qualifications and the programmes offered by the institution.

**Theme 2: Measures set up by higher education stakeholders to ensure equal opportunities of access for holders of vocational and academic engineering qualifications at NQF level 4**

The findings of this study show that there are several measures set up by the institution that were involved in this study to facilitate equal access of engineering students to higher education. The following sub-themes present the different measures identified in this study.

***Sub-theme 1: Measures set up by the university to communicate and provide the understanding of the admission policy by potential students***

The institution uses various platform to communicate the admission requirements. One of the methods used is electronic media whereby information is made available online, on the website with further assistance through an online Admission Point Score (APS) calculator. Some of the participants stated this as follows:

> *All the courses information is available online (UoT Admin 1)*
> *Also, we have a very use friendly website that explains all of the requirements (UoT Admin 3)*

> *We even have a programme called an APS calculator where they can go and put in all their subjects that they have with the marks or the levels that they have. They go and select that course and then the system will tell them okay, you don't meet the requirements, or you do meet the requirements, or you meet the requirements, but you don't meet the APS requirements. (UoT Admin 4)*

The findings suggest that in order to enable potential students to successfully articulate and cross the boundaries into higher education institutions, the University of Technology involved in this study has developed an admission policy amenable to that purpose. The admission policy seems to provide information on the minimum admission requirements that the potential engineering students have to comply with

to successfully articulate with the engineering programmes of their choice. The institution also uses paper-based methods to communicate the admission requirements that have to be fulfilled by applicants to get access into the institution. This is in the form of booklets and the prospectus, which was indicated by some participants in the study who stated that:

> *All the campuses have information booklets where they can go to, to get information (UoT Admin 1)*

> *We have got a prospectus. We also have a great companion. I think with the great companion it's much easier, it explains to a part where it also shows you what are the possible careers you can venture into when you got a certain qualification. (UoT Admin 3)*

> *The prospectus it has all the information, the requirements, the subject that you have to do and then the general information as well. The general information it is all the courses that are being offered at an institution. (UoT Admin 5)*

There is an indication in these findings that the institution is aware that not all the applicants have access to technological resources; hence the institution also uses paper-based communication methods to disseminate the application information. The findings in this sub-theme also show the institution also uses personal contact to communicate the minimum admission requirements to potential students. It does this through recruitment personnel, information officers, setting up information booths and through information centres. The participants said:

> *And all the campuses also have their own information booth where they can go to, to get information (UoT Admin 1)*

> *And then we also have recruiters who go to different schools to explain in detail (UoT Admin 3)*

*We also have information officers, err, err, the people who can educate them on what the requirement is. And also have our recruitment department who visits schools and explain everything to them on the requirements (UoT Admin 4)*

From the findings above, it looks like the institution has multi-approaches of disseminating information concerning the minimum admission requirements they have set for their engineering programmes. This attests to rigour in the recruitment of students to higher education.

**Sub-theme 2: *The development of admission policies to promote access into the higher education institution***

The findings of this study show the influence of policy on promoting access to higher education institutions. The following sub-themes presents the different ways in which the admission officers use policy during their evaluation of applications such as specific subject requirement for getting access in the applicant's chosen engineering programme as stated below by one of the participants who said:

*And then you can just have a look on your own, maybe these are the subjects that I am required to do and then these are the levels (UoT Admin 3)*

In addition, the finding in this sub-theme indicate that the admission officers are aware that they have to adhere to the policy guidelines that are used to evaluate the applications for admission in order to promote equal access opportunities regardless of the qualification being presented by an applicant. This is according to the accounts of some participants as stated below:

*Yes, there is uhm there's booklets, all that booklets we must also adhere to those, the prospectors we must adhere to it (UoT Admin 1)*

*We've got our own internal procedures and rules for all of the processing of students irrespective of what qualification they have. We've got internal documents like that and we've got uh workshops (mentions the name of a colleague) always holds with us to update us on details of any changes or*

*any amendments from either internally or the education department that come through to assist or enhance our…our…our processing of students' information or application form. (UoT Admin 2)*

*All of us like there is no different system maybe that we are using to admit students, we all using the same, we all following the same requirements to admit students even in terms of our behaviour, we are all following those exact same route basically. Most of those are on the prospectus, which would actually be the right place for me if I am not sure to check. (UoT Admin 3)*

The quotations above point to the fact that there are policy guidelines in place that are developed to ensure that admission officers are consistent in terms of processing applications for admission. The policies seem to be used as reference by the admission officers to make sure that they make the right application decisions. The data from the document analysis also confirms that the admission policy provides information on the admission requirements. However, these are not specific requirements for the various programmes offered by the institution. The specific programme requirements are stipulated in the faculty prospectus as stated in the policy that a person, who meets the requirements stipulated in Part One of the UoT's General Prospectus (Chapter One), shall be regarded as having met the minimum admission requirements (UoT, 2009: 5).

### *Sub-theme 3: Measures put in place to ensure that the students who have successfully completed the NC (V) do get access into university*

The TVET college and the University of Technology (UoT) have some in-built measures that are intended to make sure that the NC (V) is not a dead-end qualification. These measures entail collaborations between the TVET college and the UoT, which also happens to be the institution under investigation. The collaborations are formalized through liaising with the UoT and entering into Memorandum of Understanding (MoU) as indicated by one of the participants in the following quotation:

*Usually we have memoranda of what is it, MoUs with universities, if we have students who, who qualify to go to universities, we usually liaise with the*

*universities and we tell the students to go to particular universities. They really admit them if they meet the requirements. (TVETL4)*

This particular finding shows that for a NC (V) which is a new qualification in the vocational space, a lot more has to be done by both TVET colleges and the institutions of higher education to make sure that those who have successfully completed the qualification get articulation opportunities.

It is equally important for the NC (V) learners to be offered advice in terms of the opportunities that will be available to them after completing the qualification. The advice given by the TVET college staff is in the form of providing information on admission requirements and future study. This is what some of the participants said:

*The leaners have to make sure that they meet the requirements maybe by passing, getting the required err percentage. Normally they said you had to have three, four and whatever (TVETL3)*

*For those whom we can pick up, you know, and we can only pick them up from NC (V) when we see their, their matric results to say this can be the material that can really make it even at university level, we call and advise that what is your intention after studying what you are studying with us? Are you not intending to study further, staff like that? That's when we now assist. (TVETSS)*

The above response reveals that the TVET college staff offer advice to those students who have aspirations of progressing to higher education institutions. Furthermore, this study also reveals that most of these learners do not necessarily aspire to progress into further learning but rather seek employment. The Department of Higher Education and Training is also aware of this; hence, TVET colleges are encouraged to arrange job placement opportunities for the NC (V) leaners. The advice given by the staff at the TVET college intends to direct the students towards employment opportunities, self-employment, and general workplace information as indicated in the following quotations:

*Lately the department has insisted on placements; err particularly during the holidays for experiential learning. (TVETL2)*

*But what we do mostly we encourage them that they have to learn the trade so that they can be entrepreneurs, self-employed, they can fit in the place of work and that is what we encourage them to do. (TVETHOD)*

What seems evident from the findings in this sub-theme is the "no one-size-fits-all" approach that can be applied by the TVET college when it comes up with mechanisms to assist their NC (V) students to get access for further study. This is because the NC (V) learners have different aspirations. Some learners intend to advance their studies in higher education while other learners choose to seek employment or be self-employed.

***Sub-theme 4: Collaborations between the University of Technology and other student-exit-level institutions that are producing these engineering students***

This theme reports on the findings that emanated from investigating possible collaborations between the UoT and the student-exit-level institutions (schools and TVET colleges) from which the potential students qualified. The TVET college staff is of the view that higher education institutions have no interest in establishing collaborative relationships to ensure articulation because they don't have a shortage of students. The TVET college seems to be more proactive in initiating collaborations. The reason was that they became aware that their students were having difficulty with getting access into some of the local institutions. This is what some of the participants said:

*Universities they don't care about us because they, they also have students, they always chase students away, so it is us who went to them to say people if we have students who have passed with this, can you really accommodate them, and then they are because in the place, the university did not understand what this NC (V) is, they are now becoming aware of it of late but around 2010, most students would not, would say I was rejected or this, it's then that we discover that or no we need to talk to people at the universities so that they can understand this, what is going around. (TVETL4)*

*The relationships that we are having with err, the universities, I know that is there especially with TuT. When we partner with them so that whenever they need those err, the students from universities who did what the college can be regarded as a scarce skills and we need that, ya, then that's when we come up with err, err meetings to just go there, to talk to the varsities. (TVETSS)*

What emerges is that the TVET college staff are of the opinion that the higher education institutions are not concerned with establishing collaborative relationships—possibly because they are the first choice for students. As a result, they do not struggle to attract students. It seems as if there are formalized measures that have been put in pace to ensure that relationships are established between the TVET college and some local higher education institutions. Both the TVET college staff and the UoT staff corroborated this information. The following are some of their narrations:

*Even TuT, we have a Memorandum of Understanding with TuT for our IT students. TuT offers IT the Soshanguve campus is offering IT, IT programmes, so we have a memorandum with them. Even our students, if they have problems or they want to further their studies, or they want to, to make some research they allow them free of charge to go to that campus as long as they have student cards they give them access. (TVETL4)*

*Ya, the universities they sign MoUs with lots of TVETs, err, TVET institutions. So, we do have a good relationship with the TVETs. If you can look at our, what we call it, err, our prospectus, you will see we also accommodate those students from TVET college. If you can look at the engineering faculty in most cases, because we need those TVET college students. (UoT DR)*

Another finding related to the formalization of the collaborations, which happened through entering into Memorandum of Understanding that is signed between the TVET college and a local UoT: an effort is being made by the institution to form collaborations. The participants talked about the existence of collaborations

between the UoT, schools and TVET colleges and between the TVET and academic universities. Some of the participants said:

> *Yes, what we are doing, we in our, my faculty we have a marketer, that marketer is always involved in contact with all the schools via the departments and we have also in the department a lecturer who is also going out to schools for the marketing of the course… some of our HODS are our quality guy from the faculty, he have meetings with the TVET colleges to get that things in line. (UoTL2)*

> *I was reading something that err UP is having a relationship with our college (TVETHOD)*

> *I know marketing usually targets the schools (UoTL1)*

From the findings of this study, collaborations constitute an essential element in forming relationships that enable boundary crossing between student-exit-level institutions to higher education institutions. One of the findings from this theme suggests that an admission policy has been developed by the institution to ensure that admission officers are consistent in terms of processing applications for admission. These findings resonate strongly with Mathekga (2012) study which found that the APS system which is determined by the senate of every institution and aligned to legislation is used for enabling access into higher education institutions. This current study also shows that collaborations between institutions is beneficial in ensuring that articulation is enabled. A similar finding was also reported by Mashongoane (2015), who found that partnerships between the different stakeholders and institutions encourage positive perceptions of students and the public towards NC (V) programmes and promotes progression and articulation.

Furthermore, this study reveals that the TVET college has formalized the collaborations through signing a MoU with a local UoT. It seems like this is a common practice in the TVET college sector. In their study of post-schooling education in the Western Cape, (Papier, Sheppard, Needham and Cloete, 2016) also found that the TVET colleges that were part of their research had a variety of

formal and informal arrangements with higher education institutions. Out of the five TVET colleges that were part of their study, four acknowledged that they had entered into MoUs with a specific university. This shows that collaboration between institutions is an acceptable practice in promoting access to higher educational institution.

**Theme 3: The main considerations by higher education institutions for enabling access into higher education for those with NQF level 4 qualifications**

The Department of Higher Education and Training (DHET) has developed a policy on articulation. The policy is intended to guide the Higher Education Institutions while providing access opportunities to applicants. What is noted from this study is that apart from the articulation policy, the higher education institution has its own considerations for enabling access into its institution. While processing applications, the admission officers consider certain aspects for them to admit or reject applicants.

***Sub-theme 1: The kind of subject combinations considered when admitting learners to engineering related qualifications***

For potential students to be successfully admitted in their chosen engineering programmes, they have to present three subjects that are English, Mathematics and Physical Science/Applied Technology/Engineering Science. This is according to the accounts of some participants who said:

> *So, it be must either Home Language or First Additional Language, Mathematics, pure Mathematics, and then Physical Science that is for the normal matric certificate and then the L4 the same its Engineering, agh, sorry, its English, Mathematics and because they don't have Physical Science they have err, Applied Technology something but it's similar to Physical Science. (UoT Admin 4)*

> *English, Maths and Physical Science those are the three prerequisite subjects that are needed within the qualification we look at them. (UoT Admin 2)*

*For engineering, we specifically look at the qualification requirements. That is the first most important thing that we look at that being English, Science and Maths. (UoT Admin 3)*

It is clear that one of the aspects that is considered for both NSC and NC (V) by admission officers for enabling access into engineering programmes is subject combinations. If an applicant applies with no science subject, then they do not get access into an engineering qualification. Some of the participants stated this:

*If you don't have Science it's done, we are not going to even look at the possibility of you studying engineering (UoT Admin 3)*

*And then the vocational as well if they did Engineering Science and because we also regard that as Physical Science if it's Engineering Science is also becoming Physical Science (UoT Admin 5)*

Another aspect considered for placement of applicants is a Science subject, which is a pre-requisite for access into engineering programmes. Apart from Mathematics, Science and English considered as the required subjects to enable access, there are other subject that may be considered depending on the requirements of the various engineering programmes. Some participants stated these as the following:

*So, a person could have Physical Science, Maths, English and then they add Biology. (UoT Admin 2)*

*Some of the engineering courses they also require a Life Sciences. Yes, they also require life sciences in some course (UoT Admin 1)*

What emerges from the finding above is that apart from the three required subjects, the applicant's performance in other subjects may be required depending on the programme the applicant applies for. Apart from the required subjects, the institution also uses the Admission Point Score system. According to this system, the applicants must have a specified number of scores, which is calculated using their

subjects, for them to get access into the programme being applied for. To support the statement this is what the participants said:

> *But then we also have a uhh APS scoring, so they must have uh points that's maybe 30 (UoT Admin 1)*

> *We calculate everything together your APS but excluding Life Orientation obviously and a fail, which is a one. (UoT Admin 4)*

> *And then the APS score as well counts. Because if you check the prospectus for engineering it does specify what the requirements for English Maths and Science and then the APS score should also be a specific number. (UoT Admin 5)*

The findings also indicate that, over and above general admission requirements, the applicants have to meet the Admission Point Score requirements as set up for the different engineering programmes offered by the UoT. The applicants are also required to be at Bachelor's degree or at a level of Diploma to be able to qualify for admission. This is according to the explanations of some participants who said:

> *Based on your matric results to get entry into a university you must have either a Diploma or above which is a Bachelor's endorsement. (UoT Admin 4)*

> *We've got three different endorsements for both the qualifications which is rach…eh bachelors eh bachelors diploma and a certificate. So, if they've got certificate endorsement on their certificates, they actually don't qualify to do any of the national diplomas in engineering. That will be the first thing, the second one will be if they've got the endorsement of the diploma or a bachelor, we then look at the actual resus…results depending on the different qualifications offered in the different departments. (UoT Admin 2)*

This sub-theme reveals a set of criteria for admission of potential students for the engineering programmes. Science is prioritized as one of the subjects considered

without which access is not granted into an engineering programme. However, there are other subjects, which are outside the required subjects that may be considered for certain programmes.

The NC (V) document titled *Minimum admission requirements for Higher Certificate, Diploma and Degree Programmes requiring a National Certificate (Vocational) at Level 4 of the NQF* also affirms prior qualification requirements and minimum requirements that have to be met by the students in order to get access into higher education institutions. It stipulates three different levels at which learners can pass the NC (V) which are the Higher Certificate level, the Diploma level and the Bachelor's Degree level. To qualify for the NC (V), a student needs to meet the requirements of the Internal Continuous Assessment (ICAS), Practical Assessment Task (PAT) where applicable and oral assessment and offer and pass specific subjects.

The implication of the above finding is that meeting the minimum requirements is not a guarantee for admission. Hence, the UoT has developed its own admission policy that is seamlessly aligned to the policies of the NC (V). However, what is important to note is that potential students of the institution must meet both the qualification requirements and the requirements of the institution for articulation to be successful.

***Sub-theme 2: The qualifications considered as the most important to enable access into engineering qualifications offered by the university.***

There are several and varied qualifications registered on the National Qualifications Framework. It was therefore important to determine which of these qualifications are being regarded as being the most essential by the institution for enabling access into the institution. While processing the applications, the admission officers consider those qualifications that are equivalent to the Senior Certificate. In support of this statement, this is what some participants said:

> *The Senior Certificate the… or the equivalent, we need to have that. The N-N-N-NSC league, is mos the equivalent to the senior certificate, N3 with the languages. (UoT Admin 1)*

*We also have school of tomorrow students who are schooled at home. (UoT Admin 2)*

*So, we need to have the Senior Certificate or the equivalent to the Senior Certificate or the N3 three which is also equivalent to the senior certificate (UoT Admin 1)*

The findings indicate that the Senior Certificate (SC), the National Senior Certificate (NSC) and NATED N3 Certificate (N3 Certificate) with the languages are just some of the qualifications considered for enabling articulation. This means that several NQF Level 4 registered qualifications are being considered for enabling access into engineering programmes. The findings of this study suggest that no qualification is more important than the other. If the admission officers are satisfied that an applicant is meeting the requirements, then they process the application accordingly. Therefore, meeting the requirements is more important than the qualification being presented by the applicant, as stated by some participants who said:

*If a person is interested and they meet the requirements, we assist them. So, there's no preference on qualification (UoT Admin 2)*

*They take people that have the highest marks, whether you are from TV or straight from high school, your marks have to be, they take the first highest and if there is still space, they will consider those that have a bit of lower mark, actually a lower APS score. The highest are the first to be considered. (UoT Admin 3)*

What this reveal is that there is some level of equivalence that is accorded to the various NQF level 4 registered qualifications during processing of the applications. Furthermore, the findings also indicate that the parity of esteem is given to all NQF level 4 qualifications that are presented during the application process.

*They are all important, as a long as they have the requirements that we want, as per the prospectus but most, all of them are important, we do not say the*

*other one is important than the other but as long as they meet the course requirements. (UoT Admin 5)*

*So, to me I don't have, I don't show I'm… importance on any qualification. If a student meets the requirements for what the course says, I assist them. (UoT Admin 2)*

The sub-theme indicates that the institution considers various NQF level 4 qualifications for enabling articulation. No qualification is given prominence over other NQF level 4 qualifications. Meeting the requirements is much more important than the type of qualification presented during application. The qualifications are treated with equivalence and parity of esteem.

***Sub-theme 3: Factors to consider before admitting students for engineering***

The findings of this sub-theme indicate that while processing the applications, the admission officers consider several and varied elements for deciding on the admission status of an applicant. One of which being the three required subjects for the NSC and/or NC (V) which are Home language/First Additional Language, Mathematics and a Science subject. In support of this statement, this is what some participants had to say:

*The minimum requirements needed for those qualifications, they are with the normal… with the National Senior Certificate it is straight forward, it is English, Maths, and Physical Science or Mathematics or Physical Science uh with certain specific levels or ratings. Same way with the…with the NC (V) L4s umm umm mxm subjects will also look at the same thing (UoT Admin 2)*

*For engineering, we specifically look at the qualification requirements. That is the first most important thing that we look at that being English, Science and Maths. Those are the three mains (UoT Admin 3)*

*We firstly check the requirements, the requirements in terms of the subjects that they did, whether it's in the normal NSC or vocational and then those subjects it's mainly, Maths and then Physical Science and then and*

*Engineering. So, the engineering it will be whether it's Maths and Engineering Science or the Physical Science. And then on the NSC the normal one it's also Maths Physical Science and English. (UoT Admin 5)*

These findings show that having the right subjects improves the opportunities of getting access into engineering programmes offered by the UoT. Three subjects, which are Mathematics, Science and English, seem to be the required subjects without which access into engineering programmes might be denied outright. For both the NSC and the NC (V) learners, a pass is categorised into three levels which are Bachelor's Level, Diploma Level and Higher Certificate. This is according to the evidence of some participants who said:

*The first thing we will actually look at is, basically the endorsement is that…do you actually qualify. The second one will be if they've got the endorsement of the diploma or a bachelor, we then look at the actual resus…results depending on the different qualifications offered in the different departments of engineering. (UoT Admin 2)*

*So, there are different factors that we look at not just requirements but APS and do they meet the endorsement requirements. (UoT Admin 4)*

There is no doubt that another factor which is considered while evaluating the qualifications presented by the applicants is whether the pass is at the right level or not.

Each qualification is evaluated as its own standing. The admission officers do recognise that the two qualifications are different and such they evaluate them based on the pass requirements of each qualification. The participants said:

*So, because of their differences we cannot say we look at exactly the same things because those certificates are different even if you look at them, they are printed differently, and they actually look different. (UoT Admin 2)*

*We check if they do have the APS score that is required, and we also check if all those individual subjects they do meet the requirements irrespective whether it's a vocational one, which is L4 or whether it's actually the normal NSC. So, we don't actually treat them differently (UoT Admin 4)*

What is revealed in the findings of this sub-theme is that several and varied factors are considered when the admission officers are processing the applications. For potential students to be successful in their applications, satisfying all these requirements is a sine qua non. The admission officers go through a rigorous process of ensuring that the applicants meet all the set requirements before their admission is confirmed. The analysis of one of the prospectuses of the UoT show that the institution has developed specific entrance requirements for each programme offered by the institution. The table below presents the admission requirements for a National Diploma: Engineering: Chemical, National Diploma: Engineering; Electrical and National Diploma: Engineering: Mechanical are as stated in the document *Faculty of Engineering and the Built Environment: Prospectus 2017.*

**Table 8: Admission Point Score Conversion Table of the University of Technology**

| APS | NSC | NC-V | HIGCSE NSSC HL | IGCSE/GCSEOL /GCSE/NSSC O-Level | | A-LEVEL | IB-HL | IB SL | SAT |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Gr 11 | Gr 12 | | | | |
| 10 | | | | | | A | 7 | | |
| 9 | | | | | | | | | |
| 8 | | | | | | B | 6 | | |
| 7 | 7(80-100%) | Outstanding Competent (80-100%) | 1 | A | | C | 5 | 7 | 80-100 |
| 6 | 67(70-79%) | 4-Highly Competent (70-79%) | 2 | B | | D | 4 | 6 | 70-79% |
| 5 | 5(60-69%) | 3 Competent (60-69%) | 3 | C | A | E | 3 | 5 | 60-69% |
| 4 | 4(50-59%) | 3 Competent (60-69%) | | D | B | | 2 | 4 | 50-59% |
| 3 | 3(40-49%) | Not yet Competent 4(50-59%) | 4 | E | C | | 1 | 3 | 40-49% |
| 2 | 2(30-39%) | Not achieved (0 – 39%) | | F | D/E | | | 2 | 30-39% |
| 1 | 1(10-29%) | | | G | F/G | | | 1 | 10-29% |

Extracted from: *General Information* for 1st year enrolment *2018*

NSC - National Senior Certificate
NC-V – National Certificate (Vocational)
IGCSE - International General Certificate of Secondary Education
HIGCSE - Higher International General Certificate of Secondary Education
SAT – Senior Academic Test/Senior Academic Proficiency Test
NSSC - Namibia Senior Secondary Certificate
O-Level – Ordinary Level
A Level - Advanced Level

The table above presents the APS conversion table for all the qualifications that are recognised by the institution for enabling articulation. The National Certificate

(Vocational) and the National Senior Certificate are indicated as being amongst the qualifications recognised for enabling articulation. This is in line with what was stated by the admission officers.

***Sub-theme 4: Differentiation between vocational qualifications like the NC (V) and academic qualifications like the NSC***

The two qualifications being investigated are the NSC, which is an academic qualification, offered only in schools and the other being the NC (V), a vocational qualification offered in TVET colleges. It was important to establish whether all the participants were aware of these differences and whether these had any impact on how they interacted with the qualifications. In all probability, negative attitudes are attached to vocational qualifications. There is evidence that vocational qualifications are seen as being inferior and meant for those who did not make it in academic qualifications. Several participants opined on this perceived interiorization and hierarchization:

> *The only difference is that the one you do at school and the other one you do at a… a FET college, (UoT Admin 1)*

> *I think that one is given to those who couldn't, maybe who had challenges in doing their, the actual matric in high school, those that had challenges and then went to college to up their marks in order for them to get into the actual varsity qualifications (UoT Admin 3)*

What comes out from the findings is that the vocational qualification is associated with TVET colleges and vocational education, which is regarded as being for school dropouts who intend improving their chances to access universities. Perceptions abound that vocational qualifications merely assist learners to prepare for their chosen future careers. This is done through specialising in certain subjects, which are linked to careers of their choices. They saw vocational qualifications as assisting to prepare leaners in the chosen field of their career. Participants express this view thus:

> *To me the NC (V) students they are better more have advantage because they have learned something, which is in line of their career path. (UoT DR)*

*One major difference for me is, NC (V) is more career orientated in itself because when you come here, err you either want to do Office Administration which in itself is a career path, or you want to do Civil or you want to do IT, that is not the case at school. (TVETL2)*

*So, with NCS, the leaners they are doing some of the things that they are not going to use them in future but with err NC (V), they are just doing exactly what is related to what they will be doing in future. (TVETL3)*

*With NC (V), NC (V) I would say, the learner who has passed NQF level 4, the knowledge is going to be higher, ya because in the NC (V) they are specialising. (TVETL3)*

Another part of the finding shows that some participants associated vocational qualifications with progression to careers. The NC (V) qualification requires learners to do both theoretical and practical work during their study. They do the practical component in simulated workshops. Several participants attested to this by pointing out that:

*Vocational to me are sort of like hands on and getting more skill or acquiring skills while doing or while doing or while busy with the qualification (UoT Admin 5)*

*No but, let me talk about the Electrical engineering, learners go through their textbooks, they know the things that should be done at the workshops, the safety precautions and after going through those theories, then they do the practical part of it. (TVETL1)*

*Like for instance from, with the whole NC (V) programme there is err, in engineering department, for all the programmes, there are days which are set aside for the practicals hence the vocational part of it (TVETSS)*

*NC (V) is offering practical for the students, so they learn like they are in the place of work. (TVETHOD)*

The finding also pointed out to what was seen as an advantage of vocational qualifications concerning providing opportunities for learners to be exposed to the practical component.

About the academic qualifications, the finding shows that they are associated with schools that offer subjects that are largely based on only the theoretical component. Some of the participants said:

> *When we talk about NCS, I don't think there is more you know hands on or practical part of it, it's just theory. (TVETL1)*

> *If its juts an ordinary high school, whereby learners just do the theory and then they don't have the practical part of it. (TVETL1)*

> *I think what makes that the difference is that with the schools, they focus more on theory (TVETSS)*

The finding shows that academic qualifications are perceived as being school qualifications that are limited to offering theory only.

Another finding shows that academic qualifications are thought of as focused on preparing learners for admission into university. The evidence is in the statements below by one of the participants who said:

> *With the school qualifications, it's typical to get admission to universities. Personally, I have to say that the students that are coming from the school system tend to be better at Mathematics at university level compared to the colleges (UoTL1)*

From the abovementioned response, it is clear that academic qualifications are regarded as being preparation for university rather than the workplace. There are participants however, who indicated that there are no differences between vocational and academic qualifications particularly when it comes to the NSC and

the NC (V) because they had similar pass level. This is what was said by one of the participants:

> *So, to me I don't see the difference per se in the actual qualifications, they are both matriculants, because both they have to have an endorsement indicating bachelor, diploma or higher certificate, or certificate. (UoT Admin 2)*

What is evident from the findings of this sub-theme is that some participants associated vocational education with TVET colleges. There was also a misconception that TVET colleges offered an inferior level of education that is meant for those who could not cope with academic qualifications offered at schools. Vocational education was also viewed as preparation for careers rather than for progression into further study. On the one hand, the practical component of vocational education was deemed advantageous because it provided opportunities of practicing out the theory. On the other hand, the finding shows that academic qualifications are associated with the stereotypical view that they are offered at schools and through theoretical subjects, as such considered to be preparation for access into higher education.

***Sub-theme 5: Successful application from a TVET college***

The findings of this study indicate that there are examples of students who were able to migrate from a TVET college to a UoT. This is according to what was said by some participants who indicated that:

> *We have actually yes, like for this year there were students that were err, admitted, actually this semester the second semester, because with engineering the first semester and second semester we have had students that were admitted for second semester with L4s. (UoT Admin 3)*

> *I have helped a few students, not just in engineering but in other faculties as well. One was what was it Science which was Hospitality Management was doing L4. (UoT Admin 4)*

*I know of two students, one is now working at, from us he went to TuT. Now he is working somewhere in Durban in one of the, of these casinos, he is the one who programmes the slot machines. The other one is somewhere in Carousel. They went to, to TuT and they completed their, is it first degree, ya, their diplomas there. (TVETL4)*

With due consideration of the above, there is evidence that articulation is taking place between a TVET college and a UoT as two different institutional types. This is noted in the examples that were provided by some of the participants.

Another finding relates to the N3, which is a qualification that was offered by TVET colleges prior to the introduction of the NC (V). This example relates to an example of a student who was given conditional access even though he did not meet all the requirements. The example came from one participant who stated that:

*Ok there is a friend of mine I can think …I can think of. Remember at some point when students used to do N3, they did not do languages. When he came into the institution he had that qualification, but he didn't have languages. The student was allowed to come into the institution and study with one prerequisite. By the end of their first year they must supply us with two languages (UoT Admin 2)*

The example above is an indication that the institution was flexible in terms of ensuring access opportunities to potential students when it came to the N3, which is a predecessor of the NC (V). However, the same finding could not be made in relation to the NC (V).

***Sub-theme 6: The advice considered when learners are being admitted into the college in terms of the articulation pathways***

The findings reveal that the staff members of the TVET College indicated that they provide the leaners with information on the minimum requirements that they have to meet if they want to enter higher education institutions. This is how the participants framed it:

*We will take fifteen to twenty minutes with a group then explain to them what this course is all about, what are the requirements, what are the articulation routes, three ways after completing. What you can do with it and we do really tell them what it takes after, after completing the NC (V) Level 4 (TVETL4).*

*I usually say to them after completing err, NC (V) Level 4, remember that you can study further with the varsities err, provided you meet the requirements so you have to study very well like that matric student who will be looking forward to you know get a good rating so that they qualify. Secondly, when you complete your NC (V), you can get a job, you can be employed. More so that it is vocational, you know, depending as to the job that is advertised, what is the requirement (TVETSS)*

*We give them induction and tell them about opportunities that are available, especially the workshops that once they approach the employment they will not be found wanting because they have learnt that already (TVET HOD)*

What this finding suggests is that the TVET college does provide advice on the articulation opportunities that are there for the NC (V) after successfully completing the qualification. Such advice should enable the learners to navigate their way through the education and training system.

One of the findings in this sub-theme also shows that the learners are given advice on the course duration of the NC (V) qualification so that they can subsequently make informed decisions. The advice is customised in accordance to the prior qualification or school Grade that is held by the learners at the time of registering for the NC (V). This can be gleaned hereunder from some participants who indicated:

*They are not telling them that when you are repeating, at the high school, it was going to take you maybe one year, and then when you come to TVET it's going to take you three years (TVET L3)*

*The way you advise won't be the same because they are different, different in this way. We have those who passed Grade 9, coming to do NC (V), we*

*have those who passed and failed Grade 10 or who passed and failed Grade 11, we have those failed matric or passed matric. So, you see that the advice will automatically. It will be different because it depends on who are you talking to. I make them to understand so that once they are in the system they don't come back to say they I feel like I am wasting time. (TEVT SS)*

*In the NC (V), they have three years, they have their qualification, they have their experience. (TVET HOD)*

What is evident is that the NC (V) learners are given advice by the TVET college staff on the NC (V) in terms of its duration and the advice is fit-for-purpose. The college staff seems to be aware of the individual differences on the academic abilities of the applicants and their needs.

Another important finding relates to the advice provided to the learners on the articulation opportunities that are possible with higher education or articulation opportunities within the TVET college with a variety of vocational qualifications offered by the TVET college. Apart from advice on articulation for further study, they are given advice on employment opportunities that can be in the form of self-employment or being employed. Some of the participants said:

*If a learner is having Grade 12 it was not advisable for that learner to register NC (V) programme. Those leaners we were advising them to enrol for the NATED N4 and then those who were without matric they were advised to enrol for this NC (V) programme (TVETL1).*

*We are looking forward to people who can create jobs because, let's take for example a student who did Civil Engineering and that student is really good and the ISAT is also good and he or she complete that Level 4 ya (of) Civil, and that one can just join the contract, the construction company and they can work and as they work they can develop to a level whereby they can also have their sub-contracts you know, and staff like that and if they have sub-contracts they can employ other people (TVET SS).*

*I also tell students that if they go for NATED studies, they will have to complete, N6, N1 – N6 in two years (in two years, ya) and then they must find employment for 2 years, 24 months in order to gain experience so that they can have a diploma (TVET HOD)*

This finding is an indication that the TVET college staff do advice NC (V) learners on the multiple articulation opportunities that are there after completing the NC (V) qualification. For example, such opportunities would point to further study, employment or even following an entrepreneurial path. This is in line with the purpose of the qualification, which is stated as a qualification aimed at giving the learners who meet the requirements of the qualification practical knowledge and an opportunity for further studies (DoE, 2006).

***Sub-theme 7: Preparation of NC (V) learners to be ready for higher education***

This theme is based on the research question that intended to establish from the TVET college staff the extent to which they prepare their learners for studying further in higher education. From the findings of this study, it is evident that the TVET college staff prepare the learners in a variety of ways, which entails motivation, encouragement to aim higher than the minimum pass requirements of the NC (V) and working hard in order to get better results. The participants said:

*You just have to even err encourage them to do well academically. Ya, you have to tell them to do what, like if ever they say the pass rate the pass for Maths is 30, you have to encourage the learners to get at least 50, 50% so that they don't err, so that they get err, they don't struggle with the admission at the university. Make sure that your results are always good because you know that your goal is to see yourself at the university. (TVETL3)*

*We always encourage them to work hard and they can choose to go to the university if they work hard. (TVETHOD)*

*You have to encourage the learners to work hard from Level 2, 3 and then Level 4. Because Level 4 is the exit level. And, then if ever their results are*

*going to be good, you just you are sure that even at the university the learner will be able to cope. (TVETL3)*

With nary a doubt, these findings show that some of the staff at the TVET college do assist to prepare their learners for life beyond the NC (V). This is done through various ways that entail motivation, encouragement to work hard and passing above the minimum pass requirements set for the qualification. The staff members also encourage the learners to consistently work hard for the three-year duration of the study.

Another finding that was alluded to by some participants is on the kind of intervention programmes that are in place to assist the learners to do well in their studies and at the same time, identifying those learners that show potential for further study in higher education. The participants had this to say:

*We usually have intervention programmes in terms of low performing students we teach them in the afternoons, after lessons, after classes, we also err, came up with plans of teaching them on Saturdays, especially in Maths, Mathematics and English, these are where the problem is. We also have programmes like Ask Archie. It's a Mathematics programme, which helps students to be, to improve. (TVETL4)*

*Usually they, we do counselling, and there is one-on-one also err, sessions, whereby once we identify a student this one has a potential, that's when we call that student. There was a specific student from matric actually he performed very well, and I advised the student to say can't you consider varsity after doing whatever you want to do here, staff like that. And he agreed to that (TVETSS)*

This is sufficient evidence to demonstrate that the institution wants to see its learners successfully completing the NC (V) qualification. This is evident in the kind of interventions that are used by the TVET college which entail after school classes, Mathematics programmes to help improve the performance of students, providing counselling sessions and identifying learners who display signs that they are keen

to study further. What this study reveals is that, for potential students to be successfully admitted into this institution, they must comply with the requirements set by the institution in terms of the subjects required for engineering programmes which are Language, Maths and Science.

Furthermore, the findings in this theme reveal the tension that exists between academic and vocational qualifications. Vocational qualifications are regarded as being inferior qualifications that are intended for those who dropped out from academic qualifications. This is line with the finding by the Organisation for Economic Cooperation and Development (OECD) in its 2014 report on vocational education and training in which South Africa was a participant. In that report the (OECD, 2014) observed that the institutions that are offering vocational programmes are not well considered by both students and parents as these institutions are seen as catering for the needs of those learners who are not gifted.

**Theme 4: Challenges encountered by learners that make it difficult for them to articulate with higher education institutions**

This theme reports on the findings regarding challenges that might be encountered by NC (V) learners when they want to articulate with higher education. The following sub-themes provide the perceptions of the participants in this study regarding the challenges experienced by students' access to higher education

***Sub-theme 1: Reasons that may determine the non-admission of a prospective student***

This sub-theme is about the findings emanating from an investigation of the reasons which are the cause for the non-admission of an applicant to a higher education institution. The participants gave a variety of reasons including not meeting the minimum entrance requirements in terms of academic criteria. This entails APS requirements, and /or not having the required subjects and/or not passing the admission test. This was attested by several participants who said:

> *If we denied them then it's based on whether they meet the requirements, subject requirements, and whether they meet the APS scoring. Other than that, it's purely the department's choice. Some of them, they have tests and stuff, so*

*maybe the student didn't pass the test, or he didn't meet the required marks for the test. (UoT Admin 1)*

*Mostly, is like what is actually in the prospectus is what is actually what the students is being admitted on so it's on the requirements and the APS either than that, it is all based on the requirements. Or if it's in a manner of potential assessment the student is meeting the course requirements on the individual subjects and also the APS score and then after the potential assessment you find that they didn't go through, they didn't make it on the potential assessment and then they are not being considered. (UoT Admin 5)*

What is evident is that there are several reasons that determine the non-admission of an applicant to the institution. These reasons may be - not meeting the requirements set by the institution which entail not presenting the required subjects, not achieving the correct scoring in terms of the APS and not passing the admission test administered by the specific department in which the programme is offered.

Some learners may be rejected because they have applied after the closing date while others may have applied after the institution had already reached the number of students that it can accommodate in a particular engineering programme. This was noted by some participants who indicated that:

*At most it is because they do not qualify, secondly, they have applied late. So, when your application is late you won't be considered. (UoT Admin 2)*

*Thirdly, err with courses like engineering there is a certain number of students that they want, I think it's also because of the facilities that they use, so then some are rejected because they have reached the number of students that they had wanted for the programme. (UoT Admin 3)*

Here emerges strongly an allusion to logistical reasons which, primary amongst others, entail learners who apply late and the limitations imposed by the quotas system of the institution that determines the numbers to be admitted per programme. The findings for this sub-theme are an indication that the institution has developed an admission policy which is the basis for providing access into the

institution. The admission officers are implementing the admission policy while they are processing the applications, hence the reasons mentioned for applications being declined are those related to admission requirements as set out by the institution.

***Sub-theme 2: Articulation to higher education challenges encountered by NC (V) students***

It was important to establish the kind of challenges that might be experienced by the NC (V) learners when they want to articulate with higher education in order to be able to identify the bottlenecks in the system. Identifying such bottlenecks and addressing them could lead to ensuring seamless articulation. The participants had this to say with regards to some of the challenges:

> *If you look at the requirements for whether employment or if someone needs to further his or her studies, I don't remember coming through an article which shows that NC (V) Level 4 is a requirement. (TVETL1)*

This finding shows that the learners are battling with non-recognition of the NC (V) by higher education stakeholders.

Another challenge concerns the perceived low standard of the qualification. Some participants had this to say:

> *Because they are used to low pass requirements, so I think that one will really challenge them. (TVETL4)*

> *In fact, the challenges are not only confined to your typical NC (V) student, even matriculants. That is why in the universities I know of late, they have introduced bridging courses, something that we did not have in the past (TVETL2)*

It seems as if the NC (V) has reputational challenges that are linked to the low pass requirements set for the qualification. Another finding reveals that the NC (V), being a new qualification in the system is not well known and understood by stakeholders like higher education institutions, hence learners may be having articulation

challenges. Some participants also expressed the lack of marketing by higher education institutions to the TVET colleges. This was according to some participants who said:

> *So, I think if they engage the companies, engage the higher education that is the universities to inform them about this programme then it might help. (TVETL1)*

> *The NC (V) when it was implemented I don't think they informed the stakeholders, the stakeholders in the industry and the university about the programme. They should have engaged the industry and the university about the programme that it is going to be starting, it's going to start at the TVET, so that the university is going to be in the know that there is a different qualification. It was not well marketed. (TVETL3)*

> *We don't have a situation also whereby varsities come here to us to say can you identify the potential students or maybe giving a short err, you know briefing to our students to say if you want to study further, like us colleges what we do we visit schools to say, to market, to sell ourselves (TVETSS)*

What is becoming apparent from this sub-theme is that the challenges that may be encountered by NC (V) learners when they want to articulate with higher education institutions are systematic in nature. There is a feeling that there is non-recognition of the NC (V) qualification which may be attributed to the lack of proper marketing of the qualification when it was introduced. Another concern is with regards to the low pass level requirements in some of the NC (V) subjects which may be causing people to believe that the standards of the qualification have been lowered.

***Sub-theme 3: Knowledge of NC (V) engineering students that might have been denied access into higher education institutions and the reasons***

The findings of this study revealed are that the TVET college has no post-qualification intervention. This means that the institution had no information from past leaners because they did not have any communication channels with their alumni and they do not keep any records. Some of the participants in the study said:

*I don't know whether after they have been recruited do they further their studies or not. That one I 've got no idea but most of them are working. (TVETL1)*

*It's just that we don't keep records here. I don't have the record of who applied to which university and was denied. (TVETL4)*

What is clear from the participants' responses is that the institution does not trace the learners after they complete the qualification to establish whether they progressed to higher education or employment. For those who have been recruited while still studying they also did not make follow-ups with them to see whether they had opportunities of completing the qualification.

Another dimension of the findings reveals that some NC (V) learners might have been denied access into higher education institutions due to not meeting the entrance requirements set up by the institution. This was stated by some participants who said:

*So, at most we reject them because they don't qualify, others apply late (UoT Admin 3)*

*There has been a few that I know of that were declined because of those three reasons. It was either the requirements, they didn't meet the requirements, or the APS that they didn't meet the requirements or the endorsement or even all three combined. (UoT Admin 4)*

At this point the findings show that there are NC (V) applicants who were denied admission by the institution for various reasons. These varied from sending their applications after the closing date or not meeting the entrance requirements set by the institution or their APS was not at the required score or they did not pass at the right level. This study reveals that there are indeed articulation challenges that confront NC (V) applicants in their attempts at access into higher education institutions. These challenges may be noted as being related to not satisfying the requirements set by the institution. However, they may also be systemic challenges

that relate to articulation between TVET colleges and institutions of higher education. In a research report on post-school education in the Western Cape, which was commissioned by the Centre for Higher Education Trust (CHET), it is noted that articulation between TVET colleges and universities is still fraught as efforts to construct education and training articulation pathways are confronted by systemic challenges. These challenges manifest themselves through varied qualifications and assessments forms required by each of the NQF sub-frameworks as noted by (Papier, Sheppard, Needham and Cloete, 2016).

Furthermore, another challenge may be attributed to the lack of implementation of articulation policies. There are policies on articulation that are meant to ensure articulation between different institutional types and qualification types. However, there might be a challenge of enforcement. This is noted in the research report on Pathways Workstream in TVET colleges in South Africa which was commissioned by the Human Resources Development Council of South Africa (HRDCSA, 2014) which found that although there is statute to allow articulation for those who completed the NC (V) Level 4 from TVET colleges to HEIs, the policy intention does not actually transpire regularly. The demand for higher learning access far exceeds the supply, and HEIs are overwhelmed with requests for placements from learners at schools. There is also an absence of consciousness and insight at HEIs concerning articulation for those who successfully completed NC (V) 4. These systemic challenges noted in the two research reports may be further compounding the problems of enabling access opportunities for NC (V) applicants.

**Theme 5: Implementation of the higher education institutions admission policies, the national policies of the National Senior Certificate and the engineering National Certificate (Vocational) qualifications**

This theme reports on the findings relating to national policies of the NSC and the NC (V) and the admission policies of the UoT. Internal policies are developed to ensure consistency while providing services in an institution. In addition, polices can be developed externally for regulatory purposes or internally for compliance. It is important that the internal policies are developed to be aligned to the external regulatory environment.

***Sub-theme 1: The policies that inform the practices of admission officers***

This sub-theme presents the findings that were meant to determine if the admission officers are aware of the admission policies that applicants are vetted against, for them to comply with while processing the applications for admission.

> *Yes, there is uhm there's booklets, all that booklets we must also adhere to those, the prospectus we must adhere to it. (UoT Admin 1)*

> *We are all following that exact same route basically. Most of those are on the prospectus (UoT Admin 3)*

The findings indicate that there is some level of awareness by the admission officers of the policies that inform their admission practices. They rely on booklets and the prospectus. This is what was said by some participants on the matter.

Another finding shows that the admission officers are aware of the internal procedures and rules that must be adhered to while processing applications for admission. They also have regular workshops which are a platform for updates on any changes to policy. This is what they said:

> *All of us like there is no different system maybe that we are using to admit students, we all using the same, we all follow the same requirements to admit students. (UoT Admin 3)*

> *We've got our own internal procedures and rules for all of the processing of students irrespective of what qualification they have. We've got uh workshops that uh always holds with us to update us on details of any changes or any amendments from either internally or the education department. We've got uh workshops that uh ((mentions the name of a colleague) always holds with us to update us on details of any changes or any amendments from either internally or the education department (UoT Admin 2)*

It is evident from this sub-theme that the admission officers are aware of the policies that inform their work as admission officers and they apply the policies while processing applications.

***Sub-theme 2: The role played by TVET colleges in the development of higher education admission policies***

This sub-theme was intended to establish the level of involvement of the TVET college when the admission policies were developed. Some participants in the TVET college indicated that the TVET college was involved through a task team and that it is important for the college to collaborate in the development of such policies for the benefit of those who successfully complete the qualification.

> *As far as I know there should be collaboration between the two because these two programmes are Ministerial programmes, they are national programmes which must allow articulation between err, from NC (V) to higher education because if that there is no articulation then our students will not develop educationally, they will stay at the level of NQF Level 4 and will not be able to, to, to upgrade themselves. (TVETL4)*

> *Yes, they are, there is a task team that is involved in the development of policies. Yes, it actually comprises of both the universities and the TVET colleges (TVETHOD)*

This sub-theme reveals that there is some level of collaboration between the TVET, DHET and higher education institutions when the policies relating to admission of learners in higher education are being developed. In practical terms, this collaboration means that there are efforts to ensure that the exit level 4 qualifications can provide opportunities for progression into higher education.

**Sub-theme 3: The alignment of the admission policy of the institution to the national policies**

This sub-theme is reporting on the findings for establishing the alignment between the admission policies of the UoT and the national policies of the DHET. What the findings reveal is that there is policy relationship between the DHET and the universities and that the admission policies have to be approved by the DHET. This was neatly captured by some participants:

*I think because the only thing that now that I remember, Life Orientation, with Life Orientation the Department of Education has said it should not be counted when calculating the matric results, the APS scores for somebody to study at any university Life Orientation is excluded, so I think, ya there is actually a relationship being created the department and the universities. (UoT Admin 3)*

*Every university has its own requirements which is set up by the departments, ya, but also it must be approved by the department of higher education (UoT Admin 4)*

Yet another segment of findings brings to light the fact that the admission policies of the UoT are aligned to those of the DHET and the CHE provides guidance in the development of such policies. This is according to one participant who said:

*Here at universities we work with the Department of Higher Education obviously we are getting guidance from the Department of Higher Education even the Council on Higher Education (CHE). So, there are polices that we need to implement whereby it was approved by the CHE. They will have a proposal this is a policy, then we have to see in house how we can address such kind of a policy. (UoT DR)*

What emerges here is that there is some level of engagement between the regulatory bodies and the UoT in terms of the admission policies that are applicable to the institution. The admission polices developed by the institution are aligned to those of the regulatory bodies. This study reveals that the TVET college has some level of involvement in the development of admission policies by the UoT. It also reveals that the UoT while developing the admission policies, ensured that these polices were aligned to the national policies of the DHET and the CHE. These findings are contrary to the findings in the CHET report on post-schooling education in the Western Cape. The CHET researcher sought to establish whether institutions of higher education were admitting TVET college applicants. For that reason, a survey was undertaken on the articulation policies and processes that are being applied by universities and TVET colleges.

The survey entailed establishing the existence of the policies on articulation that are utilised by the institutions. A striking revelation came out of this: every TVET college that was part of the study noted that they had no policies at the level of the institutional on articulation with higher education. TVET colleges rather depended on state regulations as mentioned in the Minimum Admission Requirements for Higher Certificate, Diploma and Degree Programmes Requiring a NC (V) Level 4 of the NQF (Papier, Sheppard, Needham and Cloete, 2016) in the report.

The analysis of the admission policy of the UoT also highlighted the fact that in developing the admission policy of the institution, the institution is guided by national policies of government.

The analysis of the policy that governs the NSC which is titled *National Senior Certificate: A qualification at Level 4 of the NQF* (2009) reveals the purpose of the National Senior Certificate, namely, to enable students to gain competence that enables access to higher education (DoE, 2009: 3). From the purpose statement there is not a doubt that, in its intention at any rate, the qualification serves to enable border crossing between school and higher education. It is clear from the purpose that upon successful completion of the NSC, learners are supposed to progress to higher education institutions if they meet the entrance requirements of the institutions and the faculty requirements of the programmes they want to register for.

## 4.6 SUMMARY OF THE CHAPTER

In this chapter, I presented the several themes that conceptually framed the study. The first theme was on the evaluation of NQF level 4 academic engineering qualifications by higher education stakeholders for the purpose of enabling access into the engineering qualifications offered by the higher education institution. The second theme was concerning the measures put in place by stakeholders in higher education to enable equal chances of access for those with vocational and academic engineering qualifications completed at NQF level 4. The third theme was regarding the key considerations by higher education for making access into higher education possible for those who successfully attained NQF level 4 qualifications. The fourth theme was about difficulties experienced by applicants that make it

problematic for them to get access into higher education institutions. The last theme was on the enforcement of the admission policies of higher education, the national policies of the NSC and the engineering NC (V) qualifications.

In the next chapter, which is the last chapter, I will reflect on my experiences of my research journey. I will provide a summary of the findings of the research, the limitations and the delimitations of the study. In closing, conclusions are drawn, and recommendations made.

# CHAPTER FIVE

# SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

## 5.1 INTRODUCTION

In the last chapter I focused on presenting the various themes that emanated from the study. The first theme was about the evaluation of selected NQF level 4 vocational and academic engineering qualifications by higher education stakeholders for enabling articulation with higher education engineering qualifications. The second theme was about the measures set up by higher education stakeholders to ensure equal opportunities of access for holders of the selected vocational and academic engineering qualifications at NQF level 4. The third theme was about the main considerations by higher education institutions for enabling access into higher education for those with NQF level 4 qualifications. The fourth theme was about challenges encountered by learners that make it difficult for them to articulate with higher education institutions. The last theme in the previous chapter was about implementation of the higher education institutions admission policies, the national policies of the National Senior Certificate and the engineering National Certificate (Vocational) qualifications. Taking these thematic discussions to their logical conclusion, in this chapter is a brief reflection of my research journey, a summary of the research findings, limitations as well as delimitations of the study. From this I also draw conclusions and make recommendations.

## 5.2 RETROSPECTIVE SUMMARY

My research journey was bitter and sweet. It was bitter due to several challenges. I enrolled for the Masters: Education Management, Law and Policy in 2014, and yet it took me six years to complete the qualification. The challenges that impacted on my progress were both academic and psychological in nature. The academic challenges were relational between my first Supervisor and myself, as well as cracking the code for timeously and ethically getting access into research sites. In 2014, the first year of my registration, I successfully registered for the NMQ 800 module which went on very well. In 2015, I then defended my proposal and was successful which meant that I was well on my path to doing my dissertation. But

then I encountered relationship challenges with my Supervisor. Even the then Head of Department had to intervene. On the surface it looked like were had resolved our issue but that was not the case because this ugly challenge would continue to occasionally raise its ugly spectre until it came to a point where I had to bring it to the attention of the management of the Department. As a result, my Supervisor was substituted around June 2018. Getting a new Supervisor felt like starting all over again but in a more directed way. The assistance, guidance and support I received from my newly allocated Supervisor gave me the will to carry on and enabled me to be able to achieve my vision of completing my qualification.

The second academic challenge was about getting access to the sampled research sites. Regardless of numerous attempts that also involved the intervention of the then Head of Department, I still could not be given access into the university as a research site. It also took about two years to get permission to do research at the other sampled sites. The process of getting access was very tedious and painful. After getting permission to do the research at the UoT, it took several months to get access to the participants. All these delays meant that I could not complete the qualification at the set duration. I had to request for about two extensions. The psychological aspects entailed the loss of very close family members in very tragic circumstances over a short period of time. In March 2017, my youngest brother was gruesomely murdered. In September 2017, my niece passed away from pregnancy complications. The next month in October, of the same year my older brother and the only surviving brother was killed in a car accident. These losses affected me emotionally and I had to go into psychological therapy in 2017 and 2018. That had an impact on my studies.

The sweet part of the journey was the knowledge and experience which I gained throughout the duration of my study. The wonderful people who became part of my journey and kept on encouraging me when the going got tough. Notably, my new Supervisor has been such a source of inspiration who saw the potential where others did not.

## 5.3 SUMMARY OF FINDINGS

In this section, I am presenting the summary of the findings. The main intention of my research question, as stated in the first chapter, was to determine the manner in

which higher education institutions enable the articulation of the National Senior Certificate and the engineering National Certificate (Vocational) as NQF Level 4 qualifications. The results are presented below by answering each sub-question.

### 5.3.1 The evaluation of NQF level 4 vocational and academic engineering qualifications by higher education stakeholders for the purpose of enabling articulation with higher education engineering qualifications

The findings of this study show that the institution under investigation has a multi-layered approach of evaluating the qualifications for enabling access. The institution desist from the practice of only considering one element, but rather aggregate several elements for the purpose of enabling access. This entails having an admission policy which determines the required subjects for engineering qualifications. The admission policy also states the pass levels required for the subjects and the minimum entrance requirements for enabling access. The admission officers understand the admission policy and implement it effectively while processing applications for admission.

### 5.3.2 Measures set up by higher education stakeholders to ensure equal opportunities of access for holders of vocational and academic engineering qualifications at NQF level 4

What emerged from the findings is that the UoT has developed a multi-pronged approach of sharing information with potential students aspiring to get access into the institution. It is my observation that this multi-pronged approach has been adopted to accommodate the various circumstances of the applicants from diverse backgrounds. This would ensure that each aspiring applicant has access to the relevant information. Findings suggests that the admission officers are aware that they are obliged to follow certain policy guidelines while admitting prospective students. The standardized approach according to which the administrative personnel evaluate applications is specified to ensure consistency while processing applications. They refer to the policy documents when they are not certain of any aspect while processing the applications.

The finding also reveals that the staff of the TVET college is required to be aware of the future plans of their learners when coming up with an access mechanism

because different learners have different future aspirations. What is noted with this aspect of the finding is that there are collaborations in place between the student-exit-level institutions and the receiving institutions. These collaborations have the potential of ensuring that those who have successfully completed the NSC and the NC (V) and meet the minimum entrance requirements of the institution have the opportunity of crossing the boundaries into higher education, even on the strength of the arrangements that have been put in place.

### 5.3.3 The main considerations by higher education institutions for enabling access into higher education for those with NQF level 4 qualifications

This aspect of the findings is about the considerations made by the UoT for enabling access for those with NQF level 4 qualifications. The finding revealed that there are specific subjects required for enabling access into engineering qualifications offered by the UoT. These subjects are Language, Mathematics and a Science subject. The finding also reveals that the institution does not necessarily focus on the type of qualification for admission purpose. If an NQF level 4 qualification is presented, then the qualification is evaluated against the requirements set by the institution. The findings further reveal that several factors are considered before an applicant can be admitted into the institution. These include passing the required subjects, passing at the correct pass level, and passing the required subjects at the correct level.

The findings also show that vocational qualifications which are offered in TVET colleges are considered as being inferior options compared to academic qualifications. However, vocational qualifications are also seen as having an advantage in that they have a practical component which prepares learners for careers which is not the same with academic qualifications that are just theoretical. Another finding in this theme is that there are NC (V) learners who were able to successfully articulate with higher education because they are being given information on the requirements that they need to get access into higher education. The learners are also advised by the administrative personnel on the duration of the study to complete the NC (V) as well as the various pathways they can pursue after completion that is to further study or seek employment. Lastly, the finding of this study shows that learners are motivated and encouraged by the TVET college staff

to aim higher than the pass requirements of the NC (V) and work harder if they intend to study further. There are also some intervention programmes that are aimed at improving the performance of students that are not achieving well.

### 5.3.4 Challenges encountered by learners that make it difficult for them to articulate with higher education institutions

This finding also explored the challenges that may be encountered by NC (V) leaners while trying to progress to higher education. The study identified several reasons for non-admission of an NC (V) applicant. One of the reasons was that the applicant did not meet the minimum entrance requirements set by the institution which includes not presenting the required subject. As the rejection permutation goes it could well have been not meeting the scoring of APS or, for that matter, not passing the admission test set by the department where the programme is being offered. Some applicants submitted applications after the closing date. Such applications were rejected. The non-recognition of the NC (V) by some institutions and employers was also a limiting factor. Another challenge relates to the assumed low standard of the qualification. In addition, due to inadequate marketing, the fact of the qualification being new in the system may have contributed to its unfamiliarity to some stakeholders. The findings show that the TVET college staff did not maintain communication with its alumni as was evident in the lack of tracking mechanisms and reaching out to former students. For the students who were denied admission, it may have been because they did not meet the minimum requirements set by the institution.

### 5.3.5 Implementation of the higher education institutions admission policies, the national policies of the National Senior Certificate and the engineering National Certificate (Vocational) qualifications

The last theme was on the implementation of the admission policies of the UoT and the national policies of the two qualifications under investigation. In determining the policies that inform the practices of the admission officers, the findings of this study show that the admission officers are aware of the policy documents which they were expected to use in processing applications for admission. They were also conscious of the internal procedures and rules that must be followed when processing the applications. TVET colleges were involved in the development of higher education

admission policies and worked in collaboration with other task teams. Lastly, the findings of this study rest on the evidence that there is some level of alignment between the admission policies of the institution and the national polices.

## 5.4 DELIMITATION OF THE STUDY

My study had to be focused, even though I would have wanted to broaden it. I had to restrict myself to higher education institutions and the TVET college even though I would have wanted to also include a school in my study. By design, I did not include students from TVET colleges, schools and the higher education institutions. My assumption was that I could get in-depth data of articulation and policy matters from the admission personnel who operationalize the admissions policies rather than the students. I also did not do observations of the application and admission process because of the sensitive nature of the process which entails the identities of the applicants. Concerning the literature review, I only looked at literature that was not older than 15 years. The reason for 15 years instead of the recommended ten years is that literature on articulation and access matters is scarce and far in between, both locally and internationally. This is also justified by the fact that the development of the national qualifications framework spans longer that a ten-year historical horizon. Nevertheless, my literature was limited to the 21$^{st}$ century.

## 5.5 LIMITATION OF THE STUDY

I used 14 participants for the interviews instead of the planned 15. I was going to use 15 participants, five from each of the three sites I wanted to use. However, I ended up with 14 participants – eight were from the University of Technology which is the receiving institution and six were from the TVET college which is the feeder institution. I would have also wanted to have interviews at a traditional university as another receiving institution, but I could not get access despite frequent requests and the intervention of the then Head of Department. Despite several attempts at making requests to have access to the research site since 2015, I was not successful. Most of the correspondence was not responded to and, in the event that there was a response, it was to be re-directed to another official. But, ultimately, access was denied. For that reason, the traditional university was not part of my study. In order to address the limitation, I had to interview eight participants from the UoT and six from the TVET college to try and make up the numbers and gather

adequate data. It was disappointing not to get access at the institution of my study; yet the very same institution expects other institutions to provide access for research purposes. In future, the university should consider centralising the requests for using the university as a research site rather than leaving it to the faculties.

## 5.6 CONCLUSION

The aim of the study was to investigate the articulation of the two NQF level 4 qualifications as a gateway to higher education. My focus was on exploring the views of the participants of the higher education institution concerning the comparison of the prospects of each of the two qualifications as gateways to higher education institutions. The main finding of the study is that the UoT under investigation uses multiple ways for enabling articulation between the NSC and/or NC (V) and the qualifications offered by the engineering department. These routinely entail meeting the APS requirements, subject requirements, passing at the correct level. The study also revealed that the institution uses various platforms to disseminate the application information contained in their application policy to potential students which include print, electronic and face-to-face. Furthermore, one of the findings shows that the institution considers NQF level 4 qualifications to be equivalent. As a result, while processing applications, focus is not on the type of qualification presented by the applicant, but on whether the applicant meets all the set requirements for access to be enabled.

## 5.7 RECOMMENDATIONS FROM THE FINDINGS

- As it is currently, meeting the pass requirements of the qualifications does not guarantee access into higher education because of all the requirements that must be met by applicants which can be a further barrier. I therefore recommended that higher education stakeholders should take into consideration the purpose of NSC and the NC (V) qualifications when setting the criteria for the purpose of enabling articulation with higher education engineering qualifications. Primarily, the purposes of the two qualifications should be considered.
- Even though it emerged from the findings that there are collaborations between the exit-level institutions and the UoT, these are often initiated by the exit-level institutions. The recommendation from this study is that the UoT

needs to strengthen its community engagement by focusing more on collaborations with exit-level institutions. Higher education stakeholders should also ensure that there are equal opportunities available for holders of vocational qualifications to access higher education.

- I recommend that higher education institutions should have alternative programmes for students who have met the pass requirements of the NSC or the NC (V) but are not meeting the entrance requirements of the higher education programmes, so that they do not end up joining the not-in-employment-or-education (NEET) group.
- This study found that non-recognition of the NC (V) by some institutions is one of the reasons for students not being able to access higher education. I therefore recommend that the Department of Higher Education and Training needs to market the NC (V) programme to all relevant stakeholders and create awareness of the value of the programme.
- It is evident from this study that the pass requirements of the NSC and the NC (V) are at times lower than the entrance requirements of the UoT resulting in some applicants being denied admission even though they have passed the NQF Level 4 qualifications. For that reason, I recommend that while developing the admission polices the UoT should re-consider the admission requirements of the two qualifications so that there is close alignment between the pass requirements of the two qualifications and the entrance requirements of the UoT Programmes.
- The Department of Basic Education should consider reviewing the NSC policies to revise the pass requirements of the various achievement levels, especially noting that they are much lower than those of the NC (V) which is a comparable qualification to the NSC. This study was limited to one UoT and one TVET college in one province. As a result, the findings cannot be generalised because they are not from large scale quantitative studies. I would therefore recommend a similar study across various provinces involving more participants from TVET institutions and higher education institutions (both traditional universities and UoTs). The views of other stakeholders like students, parents, prospective employers and others on articulation to higher educational institutions should also be explored in future studies.

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**ANNEXURES**

**Annexure A**

Application letter to conduct research at the University of Technology

14 March 2016
The Acting Registrar
University of Technology

Dear Doctor

**APPLICATION TO CONDUCT RESEARCH AT THE PRETORIA CAMPUS OF THE TSHWANE UNIVERSITY OF TECHNOLOGY**

With this letter I would like to request permission to conduct research at the institution.

I am currently a Masters student at the University of Pretoria and would like to request the participation of the institution in this research. The project is a small scale research study that seeks to compare two qualifications: the NSC and the NC(V) Level 4. Both qualifications are registered on NQF Level 4 and should provide the same pathway to higher education. The reason for selecting Tshwane University of Technology as a possible research site is because it is supposed to be the potential recipient of the learners who successfully complete the NSC and/or NC(V).

With your permission, I would like to conduct a 45 minute recorded interview with three (3) of the staff members of the student academic administration department of the institution, two (2) members of staff that are involved in the development of the admission policies and three (3) lecturers involved with the students in engineering programmes of the university.

The research is undertaken according to the requirements of the University of Pretoria's Education Faculty Ethics Committee and all the information gathered will be kept confidential. Participants and the institution will remain anonymous and real names will not be used. All data collected with public funding will be made available in an open repository for public and scientific use.

Additional questions and information with regards to participation in this study can be forwarded to me at 012 0300 963 or through e-mail at 1hmatshoba@gmail.com or to my Supervisor, Professor Chaya Herman and chaya.herman@up.ac.za.
I am looking forward to your participation and would like to express my appreciation in advance for your assistance in enabling me to continue with my study.

With your permission I would like to follow this letter with an e-mail to make an appointment.

Supervisor's Name: _____
Date: _____
Supervisor's Signature:_____
Date: _____

Researcher's Name: _____
Date: _____
Researcher's Signature: _____

**Annexure B**

**Application letter to conduct research at the Technical and Vocational Education and Training College**

14 March 2016

Mr
Deputy Principal Academic Affairs
TVET College
PRETORIA
0001

Dear Mr

**APPLICATION TO CONDUCT RESEARCH AT THE PRETORIA CAMPUS OF THE TSHWANE NORTH TVET COLLEGE**

With this letter I would like to request permission to conduct research at the Pretoria Campus of the Tshwane North TVET college.

I am currently a Masters student at the University of Pretoria. The project is a small scale research study that seeks to compare two engineering qualifications; the National Senior Certificate (NSC) and the National Certificate (Vocational) [NC(V)] Level 4. Both qualifications are registered on NQF Level 4. The NSC is an academic qualification and the NC(V) a vocational qualification, that according to the NQF should provide the same opportunities for access into higher education.

With your permission, I would like to conduct a 45 minute recorded interview with each of the staff members in the engineering programme of the NC (V). Six (6) staff members will take part in the research, being the academic head of the NC (V) and five (5) lecturers responsible for the NC (V) engineering programme.

The research is undertaken according to the requirements of the University of Pretoria's Education Faculty Ethics Committee and all the information gathered will be kept confidential. Participants and the institution will remain anonymous and real names will not be used. All data collected with public funding will be made available in an open repository for public and scientific use.

Additional questions and information with regards to participation in this study can be forwarded to me at 012 0300 963 or through e-mail at 1hmatshoba@gmail.com or to my Supervisor, Professor Chaya Herman and chaya.herman@up.ac.za.

Your anticipated cooperation in this research is appreciated.

Eagerly awaiting for your positive response.

Sincerely

Rachel Matshoba
Student Number: 14333181

Professor Chaya Herman

**Annexure C**


## CONSENT FORM

I have read the information presented in the invitation letter about the study: "Investigating how vocational and academic qualifications on the same National Qualifications Framework level articulate with higher education". I have had the opportunity to ask any questions related to this study to receive satisfactory answers to my questions. I am aware that I have the option of allowing the 45 minute interview to be audio recorded to ensure accurate recording of my responses. I am also aware that excerpts from the interview may be included in the publications to come from this research, with the understanding that the quotations will be anonymous. I am also aware that all data collected with public funding may be made available in an open repository for public and scientific use.

**My rights as participant**

- I have not been forced, coerced or deceived into participating in this study in any manner whatsoever.
- I have the right to decline to engage in any process if and when I do not feel comfortable.
- I was informed that I may withdraw my consent at any time without penalty by advising the researcher.
- Any information I reveal during the course of this study shall remain confidential, shall only be used for the purpose of this research and for publication in appropriate platforms.

With full knowledge of all foregoing I agree of my own free will to participate in this study.

By signing this consent form I certify that I _____ agree to the terms of this agreement. *(Please print your name and surname in full)*

Signature of participant

_____ DATE: _____

**Annexure D**

**Table: Data analysis**

| Research Questions | Themes and sub-themes |
|---|---|
| 6. How do higher education stakeholders evaluate a vocational and an academic engineering qualification on NQF level 4 for the purpose of enabling articulation with higher education engineering qualifications? | **Theme 1**<br>The evaluation of NQF level 4 vocational and academic engineering qualification by higher education stakeholders for the purpose of enabling articulation with higher education engineering qualifications<br><br>**Sub-theme 1**<br>The extent to which higher education admission policies enable access into higher education<br>• Determining the subjects required for accessing engineering qualifications<br>• Determining the pass levels required for the required subjects<br>• Setting entrance requirements for enabling articulation |
| 7. What measures have higher education stakeholders put in place to ensure equal opportunities of access for holders of a vocational and academic engineering qualifications at NQF level 4 for enabling articulation? | **Theme 2**<br>Measures set up by higher education stakeholders to ensure equal opportunities of access for holders of vocational and academic engineering qualifications at NQF level 4<br><br>**Sub-theme 1**<br>Measures set up by the university to communicate and provide the |

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| | understanding of the admission policy by potential students<br>• Use of electronic media (Information available online and on website, APS calculator online)<br>• Paper-based information (Booklets and Prospectus)<br>• Personal contact (Recruiters, Information booth, Information center, Information officers)<br><br>**<u>Sub-theme 2</u>**<br>Admission policies that promote access into the higher education institutions<br>• Minimum pass mark<br>• Subjects required for access<br>• Subject combination<br>• Policy guidelines that promote equal access opportunities<br><br>**<u>Sub-theme 3</u>**<br>Measures put in place to ensure that the students who have successfully completed the NC (V) do get access into university<br>• Collaboration (Memorandum of Understanding with UoT, Liaising with universities)<br>• Advice (Providing information on admission requirements, Providing information on which institutions to apply at<br>• Future perspectives as motivation (Job opportunities, Self- |

| | |
|---|---|
| | employment, Entrepreneurship, Fit in the workplace)<br><br>**<u>Sub-theme 4</u>**<br>Collaborations between the university of technology and other student-exit institutions that are producing these students - schools and TVET colleges<br>• TVET initiated relationship with local UoT<br>• Existing MoU with UoT<br>• Relationships with schools but not with TVET colleges<br>• Relationships with both schools and TVET colleges |
| 8. What are the main considerations for enabling access into higher education for those with NQF level 4 qualifications? | **<u>Theme 3</u>**<br>The main considerations by higher education institutions for enabling access into higher education for those with NQF level 4 qualifications<br><br>**<u>Sub-theme 1</u>**<br>The kind of subject combinations considered when admitting learners to engineering related qualifications<br>• Subject combinations (English, Mathematics, Physical Science/Applied Technology)<br>• Pre-requisite for access into engineering (Science)<br>• Combinations are not important but the subject required per qualification |

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| | • Other subject requirements<br>• English, Maths and Physical Science/ for NC (V)<br>• English, Physical Science or Engineering Science and Maths<br>• APS requirements<br><br>**Sub-theme 2**<br>The qualifications considered as the most important to enable access into engineering qualifications offered by the university.<br>• Senior Certificate, NSC and N3 with the languages or any equivalent qualification<br>• Equivalence of qualifications<br>• No qualification is more important than the other (Meeting requirements is important).<br>• Parity of esteem for all qualifications<br>• Meeting entrance requirements is important<br><br>**Sub-theme 3**<br>The main considered prior qualifications when placing potential students in the different engineering courses<br>• The three required subjects for the NSC and/or NC (V)<br>• An NSC/NC (V) pass at the level of endorsement (Bachelor's or Diploma pass)<br>• Evaluation of NQF Level 4 qualifications |

| | |
|---|---|
| | **<u>Sub-theme 4</u>**<br>Differentiation between vocational qualifications like the NC (V) and academic qualifications like the NSC<br>• Vocational qualification<br>- Employment opportunities from vocational qualifications<br>- Vocational associated with TVET colleges<br>- Higher entrance requirements for the NC (V)<br>- Vocational is for school drop-outs so that they can improve their chances to access universities<br>- Vocational is career focused<br>- Vocational has theory and practical component<br>- Specialisation in vocational<br>• Academic qualifications<br>- Academic is associated with schools<br>- Theory only for academic<br>- Academic is focused on university preparation<br>- Non-specialisation in academic<br>• Differences/Similarities<br>- No differences – similar pass levels (Bachelor's, Diploma) |

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| | - Different names of subjects and different rating scales<br>- Differentiation accommodates various capabilities<br>- Various options should be provided for proper career decisions<br><br>**<u>Sub-theme 5</u>**<br>Successful application from a TVET college<br>• An example of a friend<br>• Examples of NC (V) students who were allowed access<br>• Given opportunity though not meeting all the requirements<br>• An example where conditional access was granted<br><br>**<u>Sub-theme 6</u>**<br>The advice considered when students are being admitted into the college in terms of the articulation pathways<br>• The minimum requirement for the programme<br>• Duration of the programme (Customised advice provided during registration<br>• Overview of the NC (V) qualification<br>• Articulation opportunities with higher education or employment opportunities (self-employment |

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| | opportunities, variety of vocational qualifications offered by the TVET college)<br><br>**Sub-theme 7**<br>Preparation of NC (V) learners to be ready for higher education<br>• Motivation (encouraged to aim higher than the minimum pass requirements of the NC (V), hard work encouraged for better results)<br>• Student support (consistency in working hard for the 3 year duration of the NC (V)<br>• Intervention programmes<br>• Identifying students that show potential to study further |
| 9. What challenges are encountered by students that make it difficult for them to articulate with higher education institutions? | **Theme 4**<br>Challenges encountered by students that make it difficult for them to articulate with higher education institutions<br><br>**Sub-theme 1**<br>Reasons that may determine the non-admission of a prospective student<br>• Minimum entrance requirements in terms of academic criteria<br>- Not meeting the APS requirements<br>- Not having the required subjects<br>- Not passing the admission test<br>• Logistical reasons |

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| | - Applying late<br>- Quotas system that determines the numbers to be admitted<br><br>**<u>Sub-theme 2</u>**<br>Challenges that NC (V) students face when they want to enter higher education<br>• Non recognition of the NC (V)<br>• Low standard of the NC (V) due to low pass requirements<br>• Inadequate marketing for the NC (V) qualification<br>• Inadequate marketing for access to HEIs<br><br>**<u>Sub-theme 3</u>**<br>Knowledge of NC (V) engineering students that might have been denied access into higher education institutions and the reasons<br>• Post-qualification intervention by the institution<br>- No information from TVET college<br>- No communication with past students<br>- No follow-up exists<br>• No record keeping by the TVET college<br>• Entrance requirements<br>- not passing at the correct level |

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| | - late applications<br>• Quotas system of the university |
| 10. How do higher education institutions implement their admission policies and the national policies of the National Senior Certificate and the engineering National Certificate (Vocational) qualifications? | **Theme 5**<br><br>Implementation of the higher education institutions admission policies and the national policies of the National Senior Certificate and the engineering National Certificate (Vocational) qualifications<br>**Sub-theme 1**<br>Communicating the policies that enable admission<br>• Booklets and prospectus<br>• Internal procedures and rules<br>• Regular updates through workshops<br><br>**Sub-theme 2**<br>The role played by TVET colleges in the development of higher education admission policies<br>• Participation through task teams<br><br>**Sub-theme 3**<br>The alignment of the admission policy of the institution to the national policies<br>• Policy relationships between the DHET and the universities<br>• Alignment of university policies with CHE and DHET policies<br>• Policy guidance provided by CHE and DHET on policy implementation |

**Annexure E**

# Interview Questions for the TVET college

**Investigating the articulation of National Qualifications Framework level4 engineering vocational and academic qualifications with higher education qualifications**

**Interview questions for the NC (V): Engineering lecturers and Academic Head**

(i) What are the policies that inform the admission of students from TVET colleges into higher education institutions?

(ii) What role if at all is played by TVET colleges in the development of such admission policies?

(iii) To what extent do you think the admission policies promote access, that is enable students to enter higher education?

(iv) How do you prepare your students to be ready for higher education?

(v) What are you doing differently in the NC (V) that is not being done in the NSC?

(vi) Do you think NCV students are being discriminated when applying for higher education?

(vii) What mechanisms are in place to ensure that the students who have successfully completed the NC(V) do get access into the institutions of higher education?

(viii) What is your understanding of the differences between vocational and academic qualifications?

(ix) What are the challenges of the NCV students when they want to enter higher education?

(x) Are you aware of any NC (V) engineering students that might have been denied access into higher education institutions? If yes, what are some of the reasons given for their non-admission?

(xi) Does the college trace its students that have successfully completed the NC(V): Engineering? If yes, what can you share in terms of where they are? If no, why not?

(xii) What kind of relationships are there between the college and the higher education institutions that successful learners are supposed to articulate into?

(xiii) What kind of advice is considered when students are being admitted into the college in term soft her articulation pathways?

(xiv) Can you provide evidence of a successful application from your college?

(xv) In your opinion, is it a good thing to differentiate between vocational and academic qualifications? Why?

(xvi) What do you think needs to change in the NC (V) to make it a better qualification?

**Annexure F**

**Interview question for the University of Technology**

**Interview questions for the Registrar/Deputy Registrar**

*(i)* *What are the policies that inform the admission of students into the institution?*

*(ii)* *Who developed these admission policies for the institution?*

*(iii)* *Do you have other stakeholders that are involved?*

*(iv)* *How does the admission policy relate to the national policies?*

(v) What measures are taken to ensure that the admission policies support articulation with regards to access to higher education?

(vi) What mechanisms are in place to ensure that there is compliance with the admission policies of the institution?

(vii) What is your understanding of the differences between vocational and academic qualifications?

(viii) How has the institution dealt with students that have presented other qualifications different from the National Senior Certificate obtained from schools?

(ix) How does the institution determine the equivalence between different qualifications at NQF level 4 for the purpose of enabling access?

(x) What collaborations are there between the university of technology and other student-exit institutions that are producing these students?

(xi) What measures are in place to ensure that those students who present unfamiliar qualifications at NQF level 4 are not unfairly excluded from the institution?

**Annexure G**

# Interview Questions for the TVET college

## Interview questions for the NC (V): Engineering lecturers and Academic Head

(vi) What are the policies that inform the admission of students from TVET colleges into higher education institutions?

(vii) What role if at all is played by TVET colleges in the development of such admission policies?

(viii) To what extent do you think the admission policies promote access, that is enable students to enter higher education?

(ix) How do you prepare your students to be ready for higher education?

(x) What are you doing differently in the NC (V) that is not being done in the NSC?

(xi) Do you think NCV students are being discriminated when applying for higher education?

(xii) What mechanisms are in place to ensure that the students who have successfully completed the NC (V) do get access into the institutions of higher education?

(xiii) What is your understanding of the differences between vocational and academic qualifications?

(xiv) What are the challenges of the NCV students when they want to enter higher education?

(xv) Are you aware of any NC (V) engineering students that might have been denied access into higher education institutions? If yes, what are some of the reasons given for their non-admission?

(xvi) Does the college trace its students that have successfully completed the NC(V): Engineering? If yes, what can you share in terms of where they are? If no, why not?

(xvii) What kind of relationships are there between the college and the higher education institutions that successful learners are supposed to articulate into?

(xviii) What kind of advice is considered when students are being admitted into the college in term soft her articulation pathways?

(xix) Can you provide evidence of a successful application from your college?

(xx) In your opinion, is it a good thing to differentiate between vocational and academic qualifications? Why?

(xxi) What do you think needs to change in the NC (V) to make it a better qualification?