Evaluating curriculum relevance at a Technical and Vocational Education and Training College in Greater Edendale, KwaZulu-Natal

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Abstract

My working experience as a lecturer in the TVET sector made me concerned about students' challenges during their journey at the college and experiences upon completing the National Certificate (Vocational) (NCV) Engineering and Related Design (ERD) programme. It has happened that students drop out or are unable to find employment. The purpose of this study was thus to explore the perceptions of students and lecturers at the Plessislaer campus of the UMgungundlovu TVET College of the relevance of the Engineering and Related Design NCV Level 4 curriculum. In addition, the study aimed to explore measures the college could take to enhance curriculum relevance so as to hopefully decrease dropout rate and improve throughput rate.

A qualitative study was conducted to explore the measures to enhance the programme and minimise dropout rate. Curriculum documents were analysed to check their relevance to the needs of the students. Participants involved in ERD Level 4 at UMgungundlovu TVET College were purposively sampled for semi-structured interviews. A total of eight participants were interviewed, which included two lecturers, two current students, two former students who had successfully completed the programme, and two students who did not finish the programme.

The study found that the NCV ERD curriculum does meet the needs of the students, but that certain things could increase its relevance. The findings indicated that more theory was taught than practical, despite the curriculum as intended stating that the opposite should be the case. Lecturers indicated that the syllabus was too long to finish in a year. They also suggested a bridging course for those students who did not do Pure Mathematics at school. It has been recommended that industry tours for the students and the lecturers take place. These would help motivate the students in their studies, thus increasing throughput rate on ERD NCV programme; and would ensure lecturers are kept up-to-date with industry requirements. Lecturers suggested that they need to be included in curriculum development as they are the implementers of the programme.

Finally, the study identified gaps for further research.

Declaration

I, Nombulelo Vuyiswa Masuku, declare that

1. The research reported in this thesis, except where otherwise indicated, is my original research.

2. This thesis has not been submitted for any degree or examination at any other university.

3. This thesis does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.

4. This thesis does not contain other persons' writing, unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted, then:
   a) Their words have been re-written, but the general information attributed to them has been referenced.
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[redacted]

18th July 2024

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List of Abbreviations

CEO -	Chief Executive Officer
DHET -	Department of Higher Education and Training
DoE -	Department of Basic Education
ESSAS -	External Summative Assessment
ERD -	Engineering and Related Design
FAL -	First Additional Language
FET -	Further Education and Training
ICASS -	Integrated Continuous Assessment
ISAT -	Integrated Summative Assessment Task
NATED -	National Accredited Technical Education Diploma
NCFE -	National Committee on Further Education
NCV -	National Certificate (Vocational)
NDPG -	Neighbourhood Development Partnership Grant
NPC -	National Planning Commission
NQF -	National Qualifications Framework
NSFAS -	National Student Financial Aid Services
PoA -	Portfolio of Assessment
PoE -	Portfolio of Evidence
RSA -	Republic of South Africa
SETA -	Sector Education and Training Authority
TVET -	Technical and Vocational Education and Training
UTVET -	UMgungundlovu Technical and Vocational Education and Training College
UKZN -	University of KwaZulu-Natal
VET -	Vocational Education and Training
WIL -	Work Integrated Learning

Chapter 1: Introduction

1.1 Introduction

I have been lecturing NCV Level 4 fundamental subjects at a Technical and Vocational Education and Training (TVET) College for a period of ten years. During this time, I have witnessed a number of challenges that TVET students experience, such as dropping out, or, upon completing their NQF Level 4 Engineering and Related Design National Certificate Vocational (NCV), working for sectors or industries that are far different from the field of study, or being unemployed. This made me curious about whether the curriculum offered really meets the needs of students.

The purpose of this study was thus to explore the perceptions of students and lecturers at the Plessislaer campus of the UMgungundlovu TVET College of the relevance of the Engineering and Related Design NCV Level 4 curriculum. In addition, the study aimed to explore measures the college could take to enhance curriculum relevance so as to hopefully decrease the dropout rate and improve throughput rate. I conducted the study at a different TVET college from my own with which I do not have a relationship, and in a subject that I do not teach, in order to achieve some degree of distance, and mitigate against possible bias or ethical issues.

1.2 Background and context

In South Africa, technical education has existed since the 1800s, when industrial expansion led to a demand for young people to have access to technical education (Doh Nubia, Maluleke & Dlamini, 2024). In the late 19th century, as both the mining and railroad industries expanded, there was a significant need for trained and competent labour. McGrath, 2003). Technical Colleges were created to provide workforce skill training for industries including mining and railroads. It should be mentioned that skills evolved along with the FET sector, showing a clear connection between training and employability. Currently, TVET colleges aim to assist learners who wish to further their studies to higher education, upskill students with skills relevant to the world of employment, and might also provide placement for students upon their completing their studies.

Post-apartheid, the African National Congress (ANC) published a policy framework for education and training in 1994, which paved the way for the 1998 adoption of *White Paper 4: A Programme for the Transformation of Further Education and Training*. The foundational principles and strategic direction for the new education and training system were laid out in this policy paper (Department of Education (DoE), 1998a), and it was from this that the immediate objectives of the TVET policy development process were derived. According to the national curriculum framework for the TVET band (DoE, 1998b), one of the main motivations for the government to implement these new regulations was to address the flaws and gaps in the FET college curriculum. The TVET College sector was established in South Africa in 2002 in terms of the *Further Education and Training (FET) Act 98 of 1998* (DoE, 1998b).

The goal of establishing TVET Colleges in South Africa was to provide students with the skills and practical knowledge needed in the workplace while remaining relevant to broader society (Sibisi, 2024; Selane & Odeku, 2024). However, according to the National Planning Commission (Gyimah, 2020), some ten years later FET was not productive, the quality was poor, and the system needed constant development. The emphasised the importance of the NCV programmes' relevance and quality.

The NCV curriculum was established by the Department of Education as a new comprehensive curriculum, which was structured from Level 2 to Level 4 on the National Qualifications Framework (NQF) (DHET, 2012; Mahlangu, 2019). The NCV programme takes three years to complete. To qualify for the programme, all new students must have completed Grade 9 schooling. Therefore, the NCV Levels 2, 3, and 4 in TVET colleges correspond to roughly Grades 10, 11, and 12 in the formal school education sector (Du Plooy & Du Preez, 2022). The NCV Level 4, the exit level, is meant to prepare learners for entry into the workforce. The Council for Quality Assurance in General and Further Education and Training, Umalusi, certifies TVET programmes.

The NCV programmes consist of practical knowledge and skills pertaining to a specific economic or occupational area. Overall, the NCV programme is supposed to offer learning opportunities in contexts pertinent to the students' particular career field of choice, and curricula that combine academic knowledge and theory with career-specific practical skills and values. The National Accredited Technical Education Diploma (NATED) programmes on the other hand, which the NCV programmes were initially intended to replace, include

practical and theoretical knowledge and provide for a period of 18 months on campus and 18 months off campus. A student must have passed matric to qualify to study for a NATED programme.

It should be noted that one of the primary reasons why the NCV programme was established was to enable students to be employable upon completing their NQF Level 4. As a result, students who register at TVET Colleges for the NCV curriculum often do so in order to help them meet needs like employability, entrepreneurship, completing their high school education, or further education opportunities. However, there is a concern about the student dropout rates in TVET Colleges. The fact that TVET College graduates experience difficulty finding employment upon completing their NCV programmes, along with the dropout rate can lead one to infer that vocational education is meaningless (Schnobel, 2019). According to the *Green Paper on Post-School Education and Training* (DHET, 2012) the TVET college dropout rate ranges from 13% to 25% annually, with Level 2 of the NQF having the highest dropout rates. These numbers serve as a warning to curriculum developers and implementers that there is a problem with the institution or system. The problem is that the TVET College sector is currently inefficient in terms of throughput and dropout rate (Makibinyane, 2020). These statistics are particularly worrying, given the very low throughput rate of NCV students. The UMgungundlovu TVET College, the focus of this study, had a throughput rate of 5% - that is, of the students who entered the NCV programme at Level 2 in 2017, only 5% had completed the NCV programme at Level 4 two years later.

According to Powell et al. (2024), TVET colleges are struggling to address the student throughput rate, which has grown to be a serious concern across the world, with the United States of America, Sudan, the United Kingdom, China, Nigeria, and Germany among those nations that share this concern. The research site of this study is a TVET College in KwaZulu-Natal, Msunduzi District. I argue that the lecturers and the college have the potential to devise and employ measures to increase throughput rate in the college.

UMgungundlovu TVET College is based in the Msunduzi local municipality in the KwaZulu-Natal province of South Africa. It offers a number of NCV programmes, including Office Administration, Engineering and Related Design, Hospitality, Education and Development, Transport and Logistics, Safety in Society, Mechatronics, Electrical Infrastructure Construction, Civil Engineering and Building Construction, Plant Processing Operations, and Technology and Computer Science Robotics.

The college has 11 different campuses, including the Plessislaer campus in Imbali, where this study took place. Imbali is located in the Edendale Township, home to a large section (nearly a third) of the Msunduzi Municipality population, generally representing the poorest residents of the Municipality. It has become one of the fastest developing townships in Pietermaritzburg with amenities such as the Greater Edendale Mall, colleges, and private schools just to name a few (Nel et al., 2021). The campus offers engineering programmes (fitting and turning, machining, tooling and fabrication) for both the NCV and NATED programmes.

1.3 Rationale

TVET Colleges are considered as the most important centres for political reforms and social justice measures for reducing unemployment and promoting economic development (Kraak, 2018; Sebola, 2022). She contends that TVET colleges are associated with globalisation, intermediate skills for human growth, and employability patterns that place an emphasis on how well skills match market demands.

In support of TVET Colleges, the government of South Africa is investing in education through funding TVET Colleges to mitigate unemployment, poverty, and scarce skills including entrepreneurship skills, and to develop the economy. However, having noted the number of students who had studied Engineering and Related Design (ERD) at NCV Level 4 and did not seem to be able to make a living, I wondered if the NCV ERD curriculum really addresses the needs of the students from the Greater Edendale area. Therefore, I wanted to hear the views of the lecturers at Plessislaer campus, the students who are currently enrolled at the campus, and former students, on the relevance of the NCV Engineering and Related Design Level 4 curriculum.

I hope that the findings of the research will assist the lecturers, curriculum designers and developers in advancing the NCV Level 4 ERD curriculum in future. My hope was that the findings would inform how the curriculum as enacted could be made more relevant. A relevant curriculum with relevant skills that match the students' place of work after completion of the course is imperative. However, relevance goes beyond just getting a formal job; it is essential for the college to offer a programme that complements the society where it is situated. A project report by the Programme Management Support for the Implementation of the Neighbourhood Development Partnership Grant (NDPG) has identified Greater

Edendale for a Township Regeneration strategy with the aim of ensuring the development of an Urban Hub within Greater Edendale area. The Urban Hub will assist with transformation and regeneration of the area. The curriculum at the college should thus also help students to acquire entrepreneurship skills to develop their own communities, which is particularly important for the Plessislaer campus, since Edendale is a developing area. This study provided students and lecturers an opportunity to air their views on the curriculum offered and to evaluate its effectiveness in relation to the contextual demands.

This study intended to generate recommendations to assist the college to decrease the dropout rate, motivate students and produce graduates who can contribute to society, who are able to start businesses or are employable.

1.4 Objectives of the study

The objectives of this study were as follows:

- To determine factors that inform the provision of the NCV curriculum.
- To determine how the NCV curriculum has changed over time.
- To determine the key stakeholders' perceptions of the NCV programme.
- To determine how the relevance of the NVC curriculum could be improved.

Through these objectives, I wanted to find out what key stakeholders related to the Plessislaer campus of the college felt about the ERD NCV curriculum, and its relevance.

1.5 The research questions

Given these objectives, the research questions for this study were as follows:

1. What informs the provision of the NCV curriculum?
2. How has the NCV curriculum changed over time?
3. What are stakeholders' perceptions of the NCV programme?
4. How can the relevance of the NCV curriculum be improved?

1.6 Research design

This section briefly presents the methodology used in this research (details are provided in Chapter 4). A research design is a general plan on how procedures together with methods are executed for data gathering and analysis (Charli et al., 2022). This research adopted a

qualitative case study located in the interpretative paradigm to explore whether the Level 4 Engineering and Related Design NCV curriculum is relevant to the students and how it can be improved to increase its relevance.

The interpretative paradigm explores individuals' understanding and perceptions of reality (Alharahsheh & Pius, 2020). As a researcher, I wanted to gather rich perceptions and understandings of the participants on the relevance of the NCV curriculum for ERD Level 4. I wanted to view the world through the eyes (perception) of participants. This also required a qualitative rather than quantitative approach.

A case study investigates a programme, setting, event, or other occurrence with the intent of exploring, describing, or explaining it (Chopard & Przybylski, 2021). An exploratory case study is employed to create a preliminary understanding of the programme or phenomenon under consideration. Exploratory case studies are aimed at exploring any phenomenon that serves as a point of interest to the researcher. On the other hand, a descriptive case study is used to outline a plan, a circumstance, or a phenomenon while painting a clear picture of what is taking place and who is involved. To explain a specific phenomenon, an explanatory case study is utilised to provide the 'how' and 'why' answers. For example, an explanatory case study might explain how a programme is perceived (Yin, 2014). In this case, exploration, as opposed to description, was the main objective.

Although case studies are criticised for the fact that their findings are impossible to generalise to other settings and that they heavily rely on the researcher's interpretations and selection of data, which can be impacted by personal assumptions, they do have several advantages. Researchers of case studies holistically understand the topic from numerous angles (Kekeya, 2021) and present data from real-life occurrences. They also provide insight into the individual behaviours of the persons of interest (Ngwato, 2020).

Qualitative research methods are often associated with the collection and analysis of written or spoken text or the direct observation of behaviour (Baker & Chenery-Morris, 2020) maintains that the foundation of qualitative research is participant engagement and dialogue. Semi-structured interviews and document analysis were used as data gathering methods in this study. The semi-structured interviews are presented in Chapter 5 in a narrative format.

Document analysis is a data gathering method suitable for trying to understand a programme's nature, gathering information about the programme, as well as uncovering the core motive behind the establishment of the programme (Tracy, 2024). Documents were

purposively sampled according to their capability to shape the curriculum into meeting the students' needs. In my study, documents helped me understand the core motive for the introduction of the NCV curriculum and the official understanding of its relevance to the needs of the students. Document analysis thus helped me explore the curriculum as intended.

To help me understand the curriculum as intended, I consulted documents that form part of the NCV curriculum state documents and other documents implemented by the college that guides and monitors their teaching and learning so to understand enacted curriculum. The documents for examining the curriculum as intended were obtained from the DHET website, while the documents for examining curriculum as enacted were obtained from the college.

The eight participants were purposively sampled for the research. The sampling criteria were current knowledge on the ERD NCV Level 4 curriculum, experience and expertise. My sample was constituted of two lecturers lecturing NCV ERD Level 4, and six students (two currently enrolled, two alumni, and two who had dropped out) from the Plessislaer campus of UMgungundlovu TVET college, who studied NCV ERD Level 4.

All researchers are expected to ensure that their research is conducted in an ethical manner. In my study, participation was voluntary, and participants could terminate their participation without penalty. The purpose of the study was explained to participants. It was also indicated to the participants that there were no benefits for participation. No names were used, only numbers (date of birth) and first letters of their names. Data was also stored digitally; my password was only known by my supervisors. After five years, any hard copy will be shredded and digital data will be deleted. A letter granting permission to conduct the study was received from the college CEO and the Department of Higher Education and Training (DHET).

1.7 Overview of the dissertation

The thesis is structured as follows:

Chapter 1: This chapter presented an introduction to the research, which included the purpose, the background, the rationale, research questions, methodological approach, as well as an overview of the chapters.

Chapter 2: In this chapter, I discuss the different perspectives on the issues related to this study from different scholars across the globe.

Chapter 3: I present the conceptual framework of the research in this chapter.

Chapter 4: This chapter describes the research design used in my study, providing a detailed description of the components - research paradigm, research style, data collection methods, sampling methods, data analysis methods, ethical issues, limitations and trustworthiness of the research.

Chapter 5: This chapter presents the data gathered during the research.

Chapter 6: In this chapter, I discuss and analyse the data in relation to the literature review and conceptual framework. The research findings and conclusions are also presented in this chapter.

Chapter 7: This chapter presents the conclusion of the study.

1.8 Conclusion

This chapter introduced the research study. The purpose, background and the rationale of the research as well as the objectives and research questions of the study were discussed. The following chapter reviews literature from international and local scholars relevant to the study.

Chapter 2: Literature review

2.1 Introduction

The previous chapter introduced the study. This chapter presents a review of the literature that is relevant to my research. A review of the literature offers an informed assessment of the existing research on the topic under study. According to Chowdhury (2019), a literature review is simply a summary, comparison, and contrast of the body of previously published research from books, journal articles, and book chapters on a particular subject. In this case, different pieces of literature are reviewed based on their relevance to the topic.

2.2 Technical and Vocational Education and Training (TVET)

The term TVET was adopted in 1999 by the United Nations (UN) at a conference held in South Korea under the auspices of the United Nations Education Scientific and Cultural Organisation (UNESCO). TVET was introduced into the South African educational system in 2012 by the DHET under the administration of Minister Blade Nzimande, who instructed all public FET colleges to change their name to TVET colleges. According to Sithole (2019), TVET was adopted to ensure that the South African educational system was in line with internationally-accepted trends and standards.

Technical Vocational Education and Training (TVET) is an international educational term applied to certain post-school educational programmes Sebola (2022). Wedekind (2016b) and UNESCO-UNEVOC (2019) highlight that TVET refers to those elements of the learning process that, along with general education, involve the study of technologies and related science, and the development of practical skills, understanding and knowledge associated with occupations in various sectors of economic and social life. Ngware et al. (2024) and Allais and Wedekind (2020) described TVET as the several kinds of educational experiences that take place in various contexts and are aimed at fostering the development of the skills required for particular occupations. Brill et al. (2024), define TVET as the type of education specially designed to meet the economic and social needs of young people who want to work and of adults who want to acquire increased job competences and thus raise performance standards in the workplace. The definition by UNESCO-UNEVOC (2019) fits well with the learning process occurring in the South African TVET colleges according to official policy.

Students are exposed to variety of technology around them, the science behind invention, repairing, manufacturing, design of particular instruments, objects and equipment and their implementation and functions. They are taught about career skills and practical skills and also work culture. There are subjects (vocational and fundamental) that are applicable in these learning processes which are discussed further below.

2.3 The historical introduction of TVET colleges in South Africa

The origin of TVET Colleges in South Africa dates back to the apartheid era when the colleges were known as Technical Colleges. The Technical Colleges were originally constrained from encouraging equal participation and access to education because of the historical legacy of apartheid education in South Africa. Before being merged after the end of apartheid, the black Technical Colleges had restrictions that hindered them from being successful, while the white-dominated Technical Colleges had better trade resources and attention. The South African government was urged and prepared to follow educational programmes that would not benefit black South Africans in the labour market. Funding of Technical Colleges was unequal since it heavily favoured only white Technical Colleges at the expense of Black students. Sithole et al. (2022) explain that the white Technical Colleges employed a type of governance that was semi-autonomous, had better resources, and had college councils that acted as connections to the local business community. Technical Colleges did not allow other ethnic groups to enrol until apartheid ended in the 1990s (DHET, 2012; Shaw & Kloot, 2024). However, the expansion of the economy prompted Technical Colleges to admit students of all other races, such as African, Indian, and coloured people (Chisholm, 2012; Papier et al., 2023, Rosinger et al., 2021).

Between 1994 and 2002, the FET colleges in South Africa continued to be formally known as Technical Colleges. The National Committee on Further Education (NCFE) in a 1997 draft report disclosed that the Technical Colleges lacked a sense of purpose. It recommended a series of major systematic improvements in governance, staff employment practices, finance and certificates. College curricula were argued to be irrelevant and unresponsive to community needs (Makgato, 2022; Quan-Baffour & Akpey-Mensah, 2022). In addition, the Technical College programmes did not effectively prepare students for success in post-secondary education and employment (Gauthier, 2020, 2023; McGrath, 2010). To address these features, the educational authorities promulgated measures to respond to the weaknesses and deficiencies of the 152 Technical Colleges. The *FET Act of 1998* facilitated

the restructuring of the Technical Colleges (Ansen, 2023; Boonzaaier, 2020; Molaudzi, 2023; Powell, 2013). Thereafter, the *South African Further Education Act, 1998*, was changed to the *Continuing Education Act of 2006*, which was intended to shift perspectives by transforming the TVET sector and ensuring equal access to TVET education for all worthy South African citizens.

The NCFE released its final report, *A New Institutional Landscape for Public Further Education and Training Colleges,* in 2001 (DoE, 2001). The report functioned as a blueprint for the amalgamation of the then 152 Technical Colleges to 50 FET Colleges (De Wee, 2024; Johnstone, 2021; Terblanche & Bitzer, 2018; Tlapana & Myeki, 2020). The merging and restructuring processes resulted in the new landscape of the FET College (Kanyane, 2016; Sithole et al., 2022; Williams et al., 2024). In May 2003, the Minister of Education, Professor Kader Asmal, officially announced the launch of FET Colleges (Khethwa, 2020; Pillay, 2012; Sithole, 2019) to address the effects of the apartheid legacy in the education sector (Chisholm, 2012; Khethwa, 2020), to join smaller and weaker Technical Colleges into stronger FET Colleges, as well as to overcome the bad reputation of the previous system of Technical Colleges (Adams, 2019; Akoojee, 2016; Ngwato, 2020; Powell, 2013; Singh, 2020). After the merging of the Technical Colleges into FET colleges in 2003, the province of KwaZulu-Natal had nine FET Colleges, one of which was the UMgungundlovu FET College in Pietermaritzburg. Five different Technical Colleges were joined to establish the UMgungundlovu FET College.

The process of amalgamation was oriented by the 2006 Further Education and Training Act. This Act was also intended to result in greater efficiencies, responsiveness, and equity countrywide (Molaudzi, 2023; Mouton et al., 2013).

A study conducted by Sooklal (2005) *entitled: The structural and cultural constraints on policy implementation: A case study on Further Education and Training Colleges in South Africa*, indicated that the restructuring of FET Colleges was for high quality, life-long learning opportunities that are essential to social development and economic competitiveness in the rapidly changing world. Sooklal argued that successful change has more to do with beliefs, values and assumptions held by the implementers than with the voluntary adoption of the change, regardless of whether it is legislated at the provincial or state levels. Implementers choose practices and changes that best align with their pre-existing beliefs and which are consistent with the organisation's culture.

They further argued that even though the amalgamation of the FET Colleges was aimed at building stronger FET Colleges that are responsive and well-managed, the way of life of the students (their capabilities, interests), and the community they live in (developments or industries established in their surroundings), should be considered in any programme of organisational change so as to minimise students' dropout and unemployment and maximise throughput rate.

Then TVET Colleges were introduced in 2012 through the process that was underpinned by *Further Education and Training Colleges Amendment Bill* (B24, 2012), as a corrective measure for FET Colleges' flaws, some of which were highlighted by Sooklal (2005). When the new South African government took over from the apartheid government, they inherited the curriculum and educational practices that were difficult for African students to adopt and that few lecturers could teach since they are were not given training prior to the change. The African student learns well in community (Gul & Khilji, 2021; Wedekind, 2016a) while this curriculum favours self-learning. Blade Nzimande, the Minister of DHET, announced the switch from the FET to TVET Colleges (Sebola 2022; Gyimah, 2020) at the launch of the *White Paper for Post-School Education and Training* in 2014. Since then, the FET Colleges have been known as TVET Colleges. The change from FET to TVET was a mechanism to improve the South African post school education system holistically. The *White Paper for Post-School Education and Training* (DHET, 2013) reoriented skills development training to public TVET Colleges.

Gaffoor and Van der Bijl (2019) highlighted the additional purpose of the TVET Colleges, in that they were to increase opportunities for, access to, and advancement in post-secondary education, which includes training in skills, information, and attitudes needed in the world of employment. Quan-Baffour and Akpey-Mensah (2022) further contested that TVET Colleges in SA were established in response to the perceived inequality and injustice of the apartheid government that denied black South Africans access to their rightful education, particularly in technical and vocational education.

Therefore, the introduction of TVET Colleges was to decrease the unemployment rate, decrease the school dropout numbers and possibly prepare students for further education. To achieve this, corrective measures need to be taken in TVET Colleges by the DHET to enhance TVET in order to be competitive (Khambule, 2019). It is clear that learners who failed in the formal academic programmes are likely to have no opportunity for further

education if TVET Colleges cannot offer such opportunity (Branson, 2018; Makibinyane, 2020; Sebola, 2022). The TVET College primarily targets school-leavers and possibly unemployed people, who have previously shown that they are possibly not interested in using their education-related talents or are unable to benefit from formal academic educational programmes (De Wee, 2024; Kapolo, 2023; Mancotywa, 2023).

2.4 Challenges to and critiques of the TVET system

The TVET system has experienced a number of challenges since the end of apartheid, despite all the policy changes and restructuring, and continues to be critiqued on a number of different grounds (Black, 2024; Khunoethe & Reddy 2023; Molaudzi, 2023).

One significant problem is that of student throughput. The throughput rate of TVET Colleges for NCV students in KwaZulu-Natal is shown in Table 2.1 below. This table highlights that only 10.4% of students who enrolled for the NC(V) in 2020 completed the qualification within the three-year expected time frame (i.e. 2022) in KwaZulu-Natal. The table highlights that most students who enrol in TVET Colleges never complete the programmes.

Table 2.1: NCV student throughput at KwaZulu-Natal TVET Colleges, 2020-2022

TVET College name	L4 Certified	L2 Cohort	Throughput rate (%)
Coastal KZN TVET College	192	2 496	7.7%
Elangeni TVET College	181	1 596	11.3%
Esayidi TVET College	162	1 143	14.1%
Majuba TVET College	254	1 902	13.4%
Mnambithi TVET College	35	677	5.2%
Mthashana TVET College	117	746	15.7%
Umfolozi TVET College	134	1 506	8.9%
Thekwini TVET College	98	1009	9.7%
UMgungundlovu TVET College	**80**	**957**	**8.4%**
Totals and rates	**1 253**	**12 035**	**10.4%**

SOURCE: Swart et al, 2024

By 2030, the South African government aims to enrol 2.5 million TVET students compared to 1.6 million students in public universities (Ansen, 2023; Papier et al., 2023; Sibiya & Nyembezi, 2018). The low throughput rates and significant dropout rates in South African TVET Colleges are already warning indicators that such aims might fail (Badroodien & Garisch, 2024; Gaffoor & Van der Bijl, 2018). There are number of reasons that could account for the low throughput and significant dropout rates. Authors (e.g. Badroodien & Garisch, 2024; Mkhize-Simelane, 2024; Prins et al. 2024; Sithole et al. 2022; Sooklal, 2005; Williams et al., 2024) have raised a number of different reasons behind students' not completing the course. For example, institutions are not implementing measures to enhance the NCV curriculum to be responsive to the needs of the students. Another is the fact that many students struggle to make it even through formal education; hence they are unable to finish TVET College programmes as they consider them too complex. Badroodien and Garisch (2024) highlight that TVET 'learners are often adult students, and so autonomous study is difficult for them' (p.40), and therefore 'peer educators need to be made available in TVET colleges to ensure proper student learning especially for level 2 students' (p.50). This decrease the throughput rate, making the NCV programme seem difficult and irrelevant.

In addition, the lecturers in TVET Colleges also experience skills challenges in imparting knowledge to their already academically struggling black students. A study conducted by Mesuwini and Mokoena (2023) entitled *TVET Lecturer Work-Integrated Learning: Opportunities and Challenges in South Africa*, indicated that most of the lecturers are without industry experience and the essential industry skills for effective teaching and learning. Their findings indicated that there was a 'great need to balance industry, educational currency, and current teaching pedagogies to ensure that VET teachers acquire the skills to be effective in their teaching and learning' (p.430). The recommendation was that it was significant to 'maintain close ties with industry professionals' (p.433), lecturers update their knowledge regularly, to ensuring they deliver up-to-date and industry-relevant content that will boost the value of the programme and expand lecturer's expertise and increase their career development.

It was also discovered that TVET lecturers were without pedagogical qualifications; which is a possible key reason why the students in TVET Colleges are facing challenges in academic performance, drop out, and being unemployable. Effective lecturers should be multi-faceted practitioners with two qualifications - a vocational trade and a professional teaching qualification. However, the DHET's Teaching and Learning Plan (TLP) (DHET, 2023)

highlights that focused development is a necessity for ensuring that academic staff are capable of delivering the subject matter confidently and competently for students to succeed. The Lecturer Learning Support system (LLS) is made available for lecturers to learn and network with other lecturers for support and guidance.

Furthermore, lecturers in Vocational Education and Training (VET) are expected to have up-to-date industry knowledge and expertise, but they often discover that industry Work Integrated Learning (WIL) is not a part of VET lecturer training (Blom 2019; Mesuwini et al., 2023; Papier, 2017; RSA, 2008; Tran et al., 2022). WIL is one of the numerous terms used to describe an educational experience that is mostly based on the experiential learning theory developed by Kolb (1984), as cited in Taylor and Cranton (2013). Experiential learning cycle entails a cycle of learning that comprises experience, followed by reflection on it, the creation of generalisations and applying learning back into practice. Mesuwini and Mokoena (2023) mentioned that WIL has been used in a wide range of vocationally oriented educational settings, including engineering, business, and teacher preparation. If stakeholders collaborate and offer a well-structured WIL programme, it will likely lead to enhanced educational experiences for lecturers, improved industry-academic partnerships, and better preparation of graduates for the job market. Therefore, stakeholders should collaborate and offer a well-structured WIL programme (Mesuwini, 2022; Pirzada, 2021). If lecturers lack industry knowledge, so do the NCV graduates, making them unemployable.

A final critique relates to the issue of TVET students' moving into higher education on completion of their TVET studies. TVET Colleges were part of the government's strategy for lightening the load on academic institutions (Chepkoech, 2021; Onwenonye, 2023). The NCV programmes had to be created in a way that allowed a select group of students who understood the need, and had the skills and the financial means, to progress to universities. Due to the TVET College subject combination not meeting university entrance criteria, achieving this element has been challenging.

2.5 The NCV programme

The NCV curriculum was established by the Department of Education 2007 as a new comprehensive curriculum, which was structured from Level 2 to Level 4 on the National Qualifications Framework (NQF) (DHET, 2012; Mahlangu, 2019; Matshoba, 2019). The NCV programme takes three years to complete. To qualify for the programme, all new

students must have completed Grade 9 schooling. Therefore, the NCV Levels 2, 3, and 4 in TVET colleges correspond to roughly Grades 10, 11, and 12 in the formal school education sector (Du Plooy & Du Preez, 2022). The NCV Level 4, the exit level, is meant to prepare learners for entry into the workforce. The Council for Quality Assurance in General and Further Education and Training, Umalusi, certifies TVET programmes.

2.5.1 The NCV Engineering and Related Design programme

For admission to the NQF Level 2 Engineering and Related Design NCV programme, one must have passed Grade 9 including Mathematics and Physical Science with 50%. The vocational subjects include Applied Engineering Technology; Engineering Processes; Professional Engineering Practice; Fitting & Turning or Automotive Repairs & Maintenance or Engineering Fabrication, and Welding, Boiler Making, Sheet-metal work. One subject is chosen in Level 4, following the students' choice from Level 2. The programme takes three years to finish.

The NCV ERD course provides for a wide range of career opportunities for students who would like to become qualified artisans within the mechanical engineering sector (Dolgopolovas & Dagienė, 2021). The potential candidates are introduced to a variety of mechanical engineering disciplines. The academic curriculum combines theoretical concepts with hands-on training to create a comprehensive understanding of mechanical engineering (Fang, 2024). Thus, the students are equipped to participate in the tasks and procedures anticipated in the workplace. Upon completion of the programme, students can seek employment in their various fields of work such as Auto Electrician, Boiler Maker, Diesel Mechanic, Welder, Tool Maker and Fitter (Maintenance fitter, Marine Fitter, Hydraulic Fitter) and many more. They can further their studies to higher education institutions such as universities if they choose to do so. They can also enrol for the N4 to N6 Mechanical Engineering programme.

2.5.2 Assessment in the NCV programme

The Teaching and Learning Plan (DHET, 2023) stresses the significance of planning of curriculum delivery with a strong focus on the core deliverables for planning of activities or outputs so that quality teaching and learning is ensured for all students, learning programmes, as well as at the college at large. The purpose of planning of assessment, as indicated in the TLP (DHET, 2023), is to ensure that the assessments of students are fair, valid, standardised

and that a common approach is executed when planning, administering and conducting these assessments.

Students complete both continuous and summative assessment tasks. Continuous assessment is laid out in the Internal Continuous Assessment (ICASS) guidelines, and for the NCV qualification, seven assessments should be done by students throughout the year. These assessments evaluate students' abilities, knowledge, attitudes, and values. There are also re-assessments if a student does poorly on an ICASS assessment. The recorded marks of the internal assessments are submitted to the examinations Chief Directorate of the Department as a true reflection of the students' ability so that the students' external assessment marks obtained in examinations align with the internal marks of the students.

When continuous assessments are finished for the year, students complete the Integrated Summative Assessment Task (ISAT). This is set by the DoE as a standardised and prescriptive practical examination, normally completed around September of each year. Students take trial examinations two to three weeks prior to doing their ISAT. Thereafter, all students participate in the External Summative Assessment (ESASS), which consists of a single paper or a collection of written papers set in accordance with the DoE's Subject Learning Outcomes (see *ANNEXURE B* of the ICASS document, 2023).

For an NCV student to receive the complete subject result for Fundamental subjects, the ICASS and the examination results are used. For Vocational subjects, the ICASS, ISAT and examination results are used. Two of the five ICASS assessments of vocational subjects are practical in nature and make up 50% of the ICASS mark which represents 25% of the final subject mark.

The required achievement percentages include all vocational subjects with 50%, Life Orientation and the First Additional Languages with 40% and Mathematics and Mathematical Literacy with 30%.

2.6 Challenges and critiques of the NCV

Since its introduction, the NCV has experienced a number of challenges presented below. The introduction of a new NCV curriculum was unpopular because it was difficult to explain it to the business sector so people were unfamiliar with the programme and were sceptical about the type of human capital it would produce. As a result, people lost faith in the TVET

Colleges' ability to provide quality skills training (Brand, 2021; Buthelezi, 2018; Mesuwini, et al., 2020; Ngidi, 2022).

The inability of the new NCV curriculum to create artisans at the anticipated rate revealed tensions and contradictions. The NCV programme lasts for three years, after which a student may be accepted into a programme to train as an artisan. The urgency with which the government wanted the production of artisans is not compatible with the programme they designed to meet this demand (Asheena et al., 2020; Mesuwini et al. 2020; Powell, 2012; Powell & McGrath, 2014; Terblanche, 2017). The old and new current NCV curricula must work together to preserve continuity, because understanding the past helps us understand the present curriculum.

The introduction of the NCV also led to the emergence of mixed ability classrooms since the entry level for NCV is Grade 9, but the programme has attracted a combination of students who have passed Grade 9 and also school drop outs (Powell et al., 2024) of Grades 10-12.

The NCV is a three-year qualification, offered at NQF Levels 2, 3 and 4. Each level takes a full year of study and a student is required to take seven subjects for each level (Chidi et al., 2024). As mentioned above, a student has to take three compulsory fundamental subjects, and four vocational subjects. This means that the majority of NCV students carry heavy subject loads which make them reluctant to continue with programme. Mbanga and Mtembu (2020) highlight that TVET College lecturers have 34 weeks of contact time per year, four of which are dedicated to student registration at the start of the academic year. After the six annual ICASS, one week of ISAT testing, and one week of trial examinations, the colleges have only 22 weeks of actual teaching time, which is often not enough for the taught curriculum to be completed.

Furthermore, enrolment of those without a technical background caught the lecturers and the new students off-guard. The programme is difficult for a student without any technical background. Lecturers cannot help as they are pressed for time to finish the syllabus and are exhausted because of burdens of overcrowding due to rapid expansion in enrolments. The government had not foreseen that quite a large number of students would be disadvantaged by this situation. I believe that this challenge can be overcome by introducing ‘a bridging course to help students with the demands of the programme’ (Mokone, 2011, p. 2).

Furthermore, enrolment of those without a technical background caught the lecturers and the new students off-guard. The programme is difficult for a student without any technical

background, which results in student dropout. Lecturers cannot help as they are pressed for time to finish the syllabus, and therefore not everything in the syllabus is taught, leading to underperformance of the students, and the blame is shifted to the NCV curriculum as not helping students and not being valuable. In addition, the lecturers are exhausted because of burdens of overcrowding due to rapid expansion in enrolments, resulting in limited teaching resources.

The government had not foreseen that quite a large number of students would be disadvantaged by this situation, thus devaluing the significance of the NCV programme and negative reputation of the institution. Huerta et al (2023) argue that this challenge can be overcome by introducing a bridging course to help students with the demands of the programme.

2.7 Students' perceptions of the NCV programme

Since the NCV programme was introduced, there have been a number of studies looking at student perceptions of TVET Colleges in general, and the NCV programme in particular – although none on the ERD specialisation.

Students at TVET Colleges believe that due to the hands-on workplace training, TVET institutions potentially offer better opportunities for entering the labour market and finding employment, only to find that it is not always the case. Students need to find employment themselves, as there are no placements (Badroodien & Garisch, 2024; Needham & Papier, 2011; Papier, 2017; Sibiya et al., 2021). As a result, students enrol in a TVET College with the intention of raising their standard of living, furthering their studies and achieving success. They also aim to find employment and advance their professions in the future (Matenda, 2019). However, the majority of students who enrol in TVET Colleges believe that these colleges are 'less' than the old Technical Colleges because they do not need a matriculation certificate to enter (Buthelezi, 2018; Nonyana et al., 2024; Sebola, 2022; Stops et al., 2022).

A study conducted by Mabunda and Frick (2020) on factors that influence the employability of National Certificate (Vocational) graduates in rural TVET college in the Eastern Cape province in South Africa. The study clearly indicates that students enrol at a TVET College with different perspectives like the trend 'that students choose to follow an academic rather than a vocational education as a result of factors that include the impossibility of being accredited for the National Senior Certificate (NSC) qualification, which then forces students

to start at NC(V) level 2' (p.91). According to Mabunda, and Frick these students under-perform in their studies, dropping out at a later stage, indicating that the NCV programme was difficulty for them, thus giving a very low throughput rate at the college. This result into negative stakeholder perceptions about the NC(V) programme.

Another doctoral study, conducted by Nthako (2020) on *Factors contributing to low completion rates of National Certificate Vocational (NCV) students at a TVET college in the Northwest Province* student attrition amongst NCV students, also discovered that students have different perspectives on the NCV curriculum. The students interviewed stated that they struggle with the curriculum since it takes so long to finish and has so much theory and so little practical work, despite the fact that the NCV programme is supposed to include practical work.

2.8 Lecturers' perceptions of the NCV programme

The lecturers in TVET Colleges are expected to do more than trade resources provided by the colleges. Lecturers often feel that they lack proper training on the curriculum of vocational educational and training (Omar et al., 2020; Weyrich et al., 2008). On that account, indicate that successful learning outcomes depend on the availability of sufficient resources, including staff development mentoring, curriculum and related materials, instruments and models of assessment, additional workers, and computers (advanced technology). They further believe that lecturers need to comprehend what they are teaching and how to do it, be able to execute their work appropriately and be able to reflect on their experiences in order to improve from them. This implies that a college lecturer must be capable, prepared, and driven to teach.

The quality of lecturers affects the quality of education and training offered at a TVET College. Therefore, it is crucial that lecturers are sufficiently prepared. Through collaborations with industries, TVET lecturers' quality and effectiveness must be improved. The collaboration between industry and TVET lecturers was established to support lecturer competency and delivery of relevant TVET curriculum (Nkwanyane, 2023; UNESCO, 2012). This establishes the standard of graduates who leave the TVET College after completing NQF Level 4. There should also be consideration of whether the TVET graduates are truly of high quality and in demand by the labour market, and whether industry is offering job development prospects or not.

A dissertation written by Kanyane (2016) on *Enhancing management structure at the TVET colleges: a case study of uMgungundlovu TVET College* explored the views and experiences of lecturers as significant implementing agents of NCV curriculum in TVET Colleges. Kanyane found that lecturers have the perception that their participation in the design of the NCV curriculum was minimal. Kanyane indicated that the NCV programme just came from DHET as a top-down approach for them to implement and their only role was to select relevant teaching material. Also, the lecturers voiced that entry level requirements to TVET Colleges should be revisited if the NCV programmes are to meet their aims and be successfully implemented.

There was also a view from the lecturers that at least one bridging year for students to familiarise themselves with the NCV programme before they start their NCV Level 2 was required (Okolie et al., 2023). In terms of the assessment in the NCV programme, the lecturers felt that the results of the NCV programme were not satisfactory. They further voiced a concern that the curriculum and qualifications of the lecturers were an obstacle, in that some lecturers lacked lecturing experience and their qualifications were not suitable for a TVET sector, therefore, Kanyane (2016) recommended that TVET college qualifications should include a practical component for teaching training.

This demonstrates that it is essential to enhance TVET Colleges' NCV curriculum through staff development and by including maximum participation of lecturers in the curriculum design to reduce students' dropout rate, and increase throughput.

2.9 The relevance of TVET curriculum

A curriculum is sometimes described as a document or plan that specifies the subject matter to be taught to learners, and possibly the instructional strategies to be employed (Grundén, 2022). Others, however, place the emphasis not on a document or plan, but rather view curriculum as a process which unfolds between the educator and the learner. Therefore, curriculum can be considered from two angles: curriculum as intended and curriculum as enacted (Choppin et al., 2022; Brand, 2021). In this research, curriculum as intended versus curriculum as enacted is the conceptual framework used to understand NCV Level 4 Engineering and Related Design.

Many scholars have viewed 'relevance of the NCV curriculum' differently, as is evident from literature specifically discussing this concept. Literature from local, national and global

scholars has written about the relevance of curricula in TVET Colleges. A review of literature on the relevance of curriculum from theses and articles of various scholars follows:

A report by Subrahmanyam (2016) for the UNESCO office of Bangkok and Regional Bureau for Education in Asia and the Pacific, entitled *Enhancing relevance in TVET: Review of progress in the Asia-Pacific since 2012*, argues that it is important to encourage partnerships and facilitate coordination amongst TVET stakeholders, and that qualifications need to be adapted and pathways developed to allow easier or better access to higher levels of education and to employment. In addition, the authors encourage responsiveness to current and future skills needs. The authors also argue that challenges experienced by TVET College graduates are the same globally, such as the issue of TVET graduates' not being employable. This tends to make the students doubt whether the curriculum is meeting their needs.

The findings of the article were that many Asia-Pacific countries do not include stakeholders in TVET systems and processes, and they do not validate, accredit and recognise learning acquired through non-formal and formal channels. In addition, these countries do not regularly gather data on the labour market, hence the skills mismatch has grown among Asia-Pacific youth, resulting in their not being employed. TVET graduates' unemployment rate also depends on their course of study. The recommendations of the article (Subrahmanyam, 2016) were that in order to enhance career and academic progression prospects for TVET graduates, the TVET sector in Asia-Pacific countries should strengthen links to industry so as to provide work-related training for students. Also, they should enhance educational and career guidance and entrepreneurship activities. Additionally, it was recommended that colleges in Asia-Pacific should update TVET training and gather information to anticipate future skills needs through feedback mechanisms from employer surveys. Liaising directly with employers would improve understanding of the knowledge, skills and competencies required in the labour market in order to respond to current and future skills needs.

Alam et al. (2024) in their study entitled *Sustainable employment for vocational education and training graduates: the case of future skills matching in Bangladesh* found that TVET graduates in Bangladesh lack the necessary skills for future employment, as evidenced by the 13.5% of participants who stated that they are unlikely to find employment with their skills, a percentage of 38.5%, stated that they were neutral in acquiring jobs depending on their skills, and only 9.5% of the participants considered they were highly employable' (p. 11).

In Bangladesh, the curriculum has not been sufficiently updated to reflect future employability, hence the 'unemployment rate is higher for TVET graduates than among general education graduates' (Alam et al., 2024, p. 12). Consequently, few students are interested in vocational education since employment opportunities both domestically and internationally are limited. Alam et al.'s recommendations also included the need to strengthen links to industry.

Frommberger's (2022) report, *TVET in Africa: Status quo development and opportunities of continental cooperation*, highlighted the situation of TVET in Africa and key approaches to developing TVET at national and continental levels. According to Frommberger, the intention of TVET on the continent is to combat youth unemployment, open up educational career opportunities for young people, and develop skilled workers. However, there are challenges to this within national strategies and approaches to TVET. The report argues that the activities in the continental cooperation within the framework of the African Union can support the further development of TVET as part of a long-term strategy.

For further development of employment-oriented TVET, Frommberger suggests that the expansion of the policy field of TVET is of utmost importance at the national, regional and continental levels. He also argues that the role and importance of TVET should be strengthened in the perception of stakeholders. In order to add to the social contribution that TVET can make to combat unemployment, its economic importance for development in Africa should be strengthened. Skilled labour development and skilled labour mobility should be emphasised more strongly, especially through strategies like linking TVET as a policy field closely to other policy fields, in particular to the development of free trade areas and mutual recognition agreement or transnational and vocational education and training standards in specific areas.

Schnobel (2019), in her study *Relevance of qualifications offered at a selected Technical and Vocational Education and Training (TVET) College in Mpumalanga*, explored what TVET Colleges in Mpumalanga can do to enhance students' employability. She discovered that graduates lacked proper skills, qualifications were without relevance to the industry and employers hardly acknowledged the TVET College qualifications. She suggests that building a relationship between stakeholders, collaboration, and revision of the NCV curriculum could assist a great deal in enhancing employability.

Another South African study, by Terblanche and Bitzer (2018), highlighted that there is a need to develop a framework for curriculum in South African TVET Colleges. They indicate that this development should support training and capacity building among TVET College leaders to bring about long overdue curriculum change. They also state that there are a range of current curriculum challenges in TVET Colleges that formed the basis for recommending that leaders need to be trained to take initiative in TVET curriculum change.

They found that there was a need for curriculum reform in TVET Colleges, and for competent curriculum leadership and leadership development. There was also a need for TVET leaders to take the initiative in order to support curriculum reform to meet the needs of the students. They emphasised that if the TVET sector has competent leadership, it will be possible for colleges to identify and implement strategies to enhance the curriculum in the colleges so as to ensure that lecturers and students have a positive attitude to the TVET curriculum. They add that TVET leadership has the potential to make the curriculum appealing to both the students and lecturers. In addition, curriculum change can bring back the hope of employment amongst TVET students, can revive a belief in curriculum relevance amongst lecturers and students, and can lessen the dropout rate of TVET students (Muthumuni & Mokoena, 2024). As can be seen from the literature reviewed above, challenges experienced by TVET College graduates are similar globally. Therefore, measures can be taken to conquer these challenges, which relates to the purpose of my research. If the recommendations of each scholar could be implemented successfully, the TVET sector can be valuable and recognised. From the reviewed literature, it can be deduced that the issues of unemployability, curriculum irrelevance and TVET not collaborating with industry tend to make South African students doubt the relevance of the curriculum or of TVET education.

2.10 Conclusion

Presented in this chapter was the historical introduction of the TVET Colleges in South Africa, details of the NCV programme's assessment, the students' and the lecturers' perceptions of the NCV programme, the relevance of TVET, the NCV ERD programme, NCV ERD assessment as well as the challenges and critiques of the TVET sector.

The next chapter presents the conceptual framework I used in my study.

Chapter 3: Conceptual framework

3.1 Introduction

The previous chapter presented the literature review of the research. In this chapter, I discuss the conceptual framework of the research. A conceptual framework is not an explanatory framework, as is required of a theoretical framework. There is no actual theory per se involved; it is simply about coming up with particular concepts to help understand a phenomenon (Braun & Clarke, 2022).

The chapter includes a discussion of the concept of curriculum as intended versus curriculum as enacted, curriculum relevance, curriculum ideologies, and curriculum approaches.

3.2 The intended versus enacted curriculum

The majority of authors and curriculum scholars have selected definitions of curriculum that highlight varied connotations and meanings. Mulenga (2018) argues that curriculum scholars are concerned with either delimiting what the term means or establishing new meanings that they associate with it. I have defined curriculum according to its association with my study in the following paragraphs.

There is no single definition of curriculum, but there are many understandings of what it is. A curriculum is sometimes described as a document or plan that specifies the subject matter to be taught to learners, and possibly the instructional strategies to be employed (Grundén, 2022). Others, however, place the emphasis not on a document or plan, but rather view curriculum as a process which unfolds between the educator and the learner.

Curriculum as defined by Tilley et al. (2025), for example, is made up of all the prearranged learning opportunities that educational institutions provide to students as well as the experiences that students have when the curriculum is put into practice. Kandiko et al. (2023), however, argues that curriculum is a planned series of events that students must work through in order for their behaviour to change in an intended and predicted way. These different understandings of curriculum reflect the three distinct emphases, namely, content, product, and process (Maia & Freire, 2023; Moore, 2012).

The **content** emphasis gives a student a list of knowledge that she or he needs to study. This strategy has a "subject-centred" orientation, whereby the students gain mastery of content that has already been decided by experts. The curriculum is divided into core components, and the lessons are taught following the logic of the subject matter.

The **product** emphasis focuses on what the intended learners can do after completing the curriculum. This emphasis is based on the assumption that all learners have common goals and the necessary resources accessible to support learning.

The **process** emphasis is more focused on the dynamic communication channels between people and their surroundings than it is on specific learning objectives.

The **content** and **product** orientations are more closed, consistent, predictable, and 'safe.' The **process** orientation results in a more accessible, diversified, unpredictable, and 'risky' curriculum which might have an effect on individuals and the educational institution as well (Deng, 2024; Maia & Freire, 2023; Maphosa et al., 2014).

These different curriculum emphases reflect two key concepts: curriculum as intended and curriculum as enacted. Curriculum as intended includes the policy tools, national standards, frameworks and guidelines instructing educators on what to teach in the classroom (and sometimes, how to teach it). The intended curriculum standardises what is to be learnt in schools or other educational institutions because it is an official document, and therefore is not flexible. The curriculum as intended within TVET Colleges, for example, would include the assessment policy and subject guidelines. Ngidi (2022) believed that curriculum give emphasis on the plan and product.

The intended curriculum relates to the formal curriculum, which is prepared in advance while taking into account the characteristics of the curriculum recipients, the educational principles and objectives, the evaluation procedures, the available resources, the environment, and the teaching methodologies (Choppin et al., 2022; Duran & Mertol, 2020; Melesse & Belay, 2022). Akala (2021) identifies the intended curriculum as the policy documents, curriculum standards, frameworks, and guidelines that specify what teachers are expected to deliver in the classroom. The enacted curriculum, by contrast, is what learners actually encounter in the classroom (in terms of both curriculum content, and how this is transmitted by the educator).

In the case of the intended curriculum, Schwartz et al. (2019) state that in order to successfully deliver the intended curriculum in the classroom, teachers need to have received

training and have pedagogical expertise in the subject matter. They also need to be motivated and have the necessary knowledge and skills. They must comprehend that the desired curriculum is a planned, established, and official course of study. Schipper et al. (2020) agree that a teacher's lack of subject-matter expertise may lead to poor teaching practices, which may also make it more difficult to accomplish the lesson's learning outcomes.

On the other hand, the curriculum as enacted is the actual curriculum as it happens in the context of the classroom, including knowledge and skills delivered during classroom instruction, what the students do, and the pedagogical practices of the educators. Seen from this angle, the college makes choices that can affect the curriculum, for example, through its teaching methodologies and lesson delivery.

Curriculum as enacted describes what really occurs, the process emphasis (Deng, 2024; Choppin et al., 2022). What happens in the classroom might, therefore, be very different from what is intended. The enacted curriculum can assist in identifying key areas for future resourcing as well as potentially problematic aspects of the intended curriculum. Larke (2019) conducted a qualitative study that concurs with this statement. She studied how educators in England interpret and enact the curriculum, arguing that they were not meeting the actual policy (the intended curriculum), in this case, a computing curriculum. She found that teachers share their experiences and knowledge of the classroom by reflecting on their enacted curriculum, which can be used to further inform and refine the intended curriculum, pedagogy, and policy directions. She concluded that teachers are the gatekeepers to computing education as they choose to interpret and reject the intended curriculum for a variety of reasons, including lack of training, experience, resources, and time needed to teach. According to the concept of curriculum as enacted, lecturers at TVET Colleges have the potential to influence the design and delivery of the curriculum, and hence enhance the curriculum. The college also makes choices that affect the curriculum. For example, the college has its own design of lesson plan and the duration of each lesson is determined by the college. In the case of pedagogy, the college has decided that practical work and theory be taught separately.

3.3 Curriculum relevance

In 1994, when the new South African government took over the education sector from the apartheid government, they unconsciously adopted the existing educational practices,

including curriculum and language, neglecting to match the needs of the African students who were previously deprived of quality education. Vocational skills were taught at home and in the community, but this later had to change due to the technological developments of the times. The vocational education skills had to match the skills required to meet the needs of local citizens as highlighted by Fomunyam and Khoza (2020). They indicated that the curriculum should also be decolonised. They maintained that curriculum shapes the preparation of students for employment, and equips students with innovative ideas for entrepreneurship.

Fomunyam and Khoza (2020) also stated that the higher education institutions' curriculum is important for its role in social, economic and cultural developments in society, local and internationally. Therefore, the curriculum of higher education should be designed in such a way that it caters for these developments that are a necessity for providing skills and an innovation-orientated educational experience. The curriculum must be continuously changed to address the societal realities and everyday life of the students. It must equip students with the practical knowledge, skills and innovative ideas to confront any emerging new challenges along their journey of life. A curriculum should be flexible, bridging the gap between abstract theories on education, universal knowledge and realities of life (Ameyaw et al., 2017; Fomunyam & Khoza, 2020).

Fomunyam and Khoza (2020) also argue that curriculum should be changed continuously and not be fixed for years, and should match the current realities of life by being variable and adaptable. It should not only involve the learning requirements of the student, but also the challenges or difficulties and demands of the present, while anticipating the future.

The curriculum in higher education is expected to be responsive to the interests and needs of South African society. The comments of Fomunyam and Khoza above are relevant to my study based on the intended curriculum documents, especially the FET Act 16 of 2006, and the Subject guideline of NCV Engineering and Related Design, Fitting and Turning, Level 4, 2007 and the Assessment guideline, 2015. Fomunyam and Khoza also emphasized that curriculum must be changed to be responsive to the current realities of the local society and beyond. These state curriculum documents fall far short of the level that the technological changes and labour market require. The labour market requires competent students with updated skills and knowledge. The current documents make our students unwilling to continue studying as they consider themselves as irrelevant to what the labour market wants

and that they seem to consider the NCV programme as not serving the purpose of providing them with up-to-date skills and knowledge for them to be relevant to society either as entrepreneurs or in the labour market.

The Plessislaer campus is located in Imbali, an area that is developing through the Edendale Urban Hub project which started around 2015. Plessislaer campus needs to enhance its curriculum to match the current skills, practical knowledge and entrepreneurship ideas so that the students can consider the NCV programmes more valuable and so that they can be considered relevant to society through the developments they will bring or they will obtain in the area.

Robinson (2018) indicated that teachers' pedagogical practices also have an impact on the curriculum relevance, especially their teaching methodologies in the teaching and learning process (the curriculum as enacted). Robinson made an example of historical events and how teachers teach them to students. He indicated that teachers teach about historical turning points like the Soweto uprising, the Sharpeville massacre, the release of Nelson Mandela from prison and democratic elections. He highlighted that these events are described to students as though they marked the end of all South African problems including discrimination, violence, racism, and poverty. He pointed out that the teachers are missing the link between these past events and the current problems faced by South Africans as a nation. This leaves students with little or no or at best inaccurate understanding of how their present reality connects with their history. The failure to link the past to the present can make the curriculum seem irrelevant (Robinson, 2018; Sudargini & Purwanto, 2020). Therefore, great consideration should be given to the implementation of curriculum because of its impact on perceptions of the curriculum's relevance. The same goes for the lecturers' pedagogical practices when lecturing the ERD programme in a TVET College. The lecturers must be able to link the implemented curriculum with the industry. The theory and practical component taught by lecturers in TVET colleges must be linked with what is required in the industry and the labour market. Students should be exposed to industry environment for observing how the knowledge and skills learnt in class applied in the workplace. Students would not have doubts about ERD curriculum if that is done in TVET Colleges, they can understand the curriculum and consider it relevant.

On the same note, Fomunyam and Teferra (2017) also argue that curriculum relevance is the capacity of the curricula taught in schools or universities to meet both the requirements of the

students and societal issues. That is to say, curriculum relevance offers standards by which a country could determine if its educational programmes are satisfying the demands of a society in transition. The authors claim that relevance can be categorised into four: pedagogical or learning relevance; the relevance of the curriculum to its knowledge discipline; cultural relevance; and economic relevance.

Pedagogic or learning relevance is concerned with the curriculum's ability to meet the needs of the students and should be reflected in approaches to the design of curricula, teaching strategies, methods of assessment, and methods relating to student support which consider the characteristics and context of target student groups meticulously. **Disciplinary relevance** has the capacity to encourage and keep up with new developments in the discipline. It also guarantees that local and global events are addressed and that students are motivated to think globally while they act locally. Tagulwa et al. (2023) describe **cultural relevance** as the capacity of the curriculum to understand and address cultural divergence in the classroom. The teacher must be aware of the variety of cultures in the classroom and understand how this influences the process of teaching and learning. They argue that multiculturalism should be promoted in classrooms. Lastly, **economic relevance** focuses on the capacity of the curriculum to prepare qualified workers for employment in different economic sectors. It thus speaks to the level of expertise and marketability of graduates of the curriculum. If graduates, who are the product of the curriculum, can provide resolutions for the economy, once employed, then the curriculum can be said to be economically relevant.

As indicated above, it is clear that there are different ideas about what makes a curriculum 'relevant'. To a large extent, this is because there are different understandings of what the curriculum is actually for: that is, there are different ideologies related to curriculum.

3.4 Curriculum ideologies

Education is not influenced by a single ideology, but rather there are many ideologies. These are the belief systems of teachers about how teaching and learning processes should occur (Baker & Chenery-Morris, 2020); but which also affect understandings about curriculum. Curriculum ideologies come from what could be called *Weltanschauungen,* or world perspectives. Schiro (2013) characterises curriculum ideology as curriculum vision, philosophies, doctrines, opinions, conceptual frameworks, and belief systems of education. Schiro (2008) argues that history has shown us that ideologies will always shape curriculum

and education. Ideologies about the subjects that ought to be covered in the classroom are referred to as curriculum ideologies. Insofar as an ideology can be implicit rather than explicit, it is reasonable to assume that all educational institutions have at least one ideology and frequently more than one that directs how they carry out their duties.

Schiro (2013) identifies four different curriculum ideologies. Each of the four curricular visions incorporates particular views about the kinds of information that ought to be taught in schools, the intrinsic character of learners, what constitutes school learning, how educators ought to instruct learners, and how learners ought to be assessed. Each vision has its own set of moral principles, educational goals, and conceptual definitions. For example, does knowledge consist of understandings, abilities, meanings, or values that can be helpful to the student?

3.4.1 The student-centred ideology

The student-centred ideology places a strong emphasis on the student as an individual, taking into account his or her interests, natures, and developmental needs (Harb & Taha Thomure, 2020; Park & Chang, 2021; Schiro, 2013). Those who follow this ideology maintain that learning should take place in engaging environments where students can grow in accordance with their own unique personalities. The purpose of education is to help students develop as people who are in tune with their particular intellectual, social, emotional, and physical characteristics. When education is properly implemented, the student-centred curriculum may make a significant contribution to shaping the student's character. Student-centred lecturers hold that humans are fundamentally good by nature, possess the capacity for growth, and are the agents who must develop their own capacities. Students are seen as the source of the curriculum's content; their goals are thought to be the proper goals for the curriculum. This means, in the student-centred ideology, learning is viewed from the perspective of the receiver (the student) (Cotti & Schiro, 2004; Mnguni, 2021; Kliebard, 1996).

Due to this, the advocates of student-centred ideology consider personal growth as their main theme. In this regard, the goal of lecturers becomes the development of students in terms of how they unfold in accordance with the principles of who they are. As a result, education entails bringing out people's innate qualities. If what is taken out comes naturally from people's innate capacities, it is a facilitator of healthy, virtue-based, and positive progress. Thus, student-centred curricula are seen as contexts, environments, or units of work where students can generate meaning for themselves through interaction with other students,

lecturers, ideas, and things. It is the responsibility of lecturers to develop those contexts, environments, or units of work, which promote growth in people as they construct meaning (and thus learning and knowledge) for themselves (Mesibov & Drmacich, 2022).

Furthermore, a student-centred ideology ignores what is lacking and concentrates on what a student can accomplish at the end. The content is researched by students to address the subject and learning objectives at the end of the lesson. In the context of the practically-oriented ERD NCV Level 4, the outcomes depend on the availability of learning and training resources, as well as the availability of the e-learning support system, prescribed books, and both the learning and training material to give guidance and direction. The lecturer must take the initiative rather than follow in the practical content. In order to instruct students effectively in the practical training required in the field of engineering, the lecturer must first demonstrate the activities (skills), as opposed to merely explaining them. The purpose of assessment in student-centred curriculum ideologies is to determine abilities of students in order to facilitate growth. As a result, assessment is student-oriented and subjective.

The lecturer could observe the students doing the practical tasks and intervene where necessary. Therefore, in order for the dual-content (practical and knowledge) training to be successful, the setting must be accommodating and resourceful, with students who are highly motivated and disciplined. Additionally, skill development encourages individual participation and the mastery of concepts or skills being learnt, which may result in high-quality societal competency.

3.4.2 The society-centred ideology

Social efficiency fans argue that ‘the aim of education should be to prepare students for their responsibilities as adults’ (Labaree, 2010, p. 13), whilst according to Schiro (2012) this ideology argues that the purpose of education should be to promote cultural competence so that once they have graduated, students will be able to play their roles in society effectively (Munir, 2022; Schiro, 2012). The objective in this ideology is to teach students the techniques and skills they will need in the workplace and at home so they can live fulfilling lives and make contributions to the social and economic well-being of society. This ideology places a strong focus on the need for students to upskill in order to fit in with society and boost the country's economy through instrumentalism, revisionism, and economic regeneration through education.

The society-centred ideologists believe that developing curricula by following the rules of the scientific method yields the most effective achievement of its learning outcomes. Lecturers control instruction by choosing and implementing educational strategies intended to assist students in developing the behaviours outlined in their curriculum. The direction of instruction is provided by clearly stated behavioural objectives, and it may take a lot of practice for students to acquire and sustain skill mastery. The first task for social efficiency lecturers is to ascertain what the demands of society are. It can be noted that the learning outcomes of the curriculum are ones that fulfil the needs or demands of the society.

The social efficiency agenda could be a huge boost to students' morale. The main concerns are the practical capability of a TVET College to deliver quality training. The NCV Policy of 2006 demands that TVET Colleges produce graduate students who are competent to find jobs and who are eligible for admission to higher education after completing NQF Level 4. TVET Colleges have a significant responsibility to thoroughly prepare the youth academically, technically, and socially in order to create an equitable environment for them to compete. It is the duty of the lecturers in TVET Colleges to determine an effective way of producing students of high calibre who can meet the learning outcomes of the curriculum, thus satisfying the needs or demands of the society. The pedagogical practices of the lecturers can be used to address the factors affecting the low employment rate of TVET graduates. Additionally, it is important to recognise that students' employment depends on their practical competence and capability.

3.4.3 The scholar academic ideology

Scholar Academics contend that human society has gathered significant information that has been produced by culture and organised into the academic disciplines found in universities over the centuries. Scholars who support the scholar academic ideology claim that the aim of education should be to ensure the continued existence of the disciplines (Coşkun & Aslan, 2021; Heywood, 2018; Schiro, 2008). This means students must be taught content knowledge that is regarded as important to the discipline. Students must also be trained to become future members of the discipline by understanding its fundamental principles in a setting that is within the parameters of the discipline. This ideology also emphasises that students should be taught foundational principles of the programme.

Schiro (2013) asserts that an academic discipline within which the scholar academic ideology is situated, is seen as a hierarchical society of individuals seeking the truth in a particular area

of the knowledge universe goes on to claim that the hierarchical communities are made up of those who seek the truth, scholars at the top of the hierarchy, those who teach the truth (through lectures), those who communicate the truth that has been discovered by scholars, and those who are tasked with learning the truth, that is, the students, in order to join the discipline. This ideology makes sure that students acquire cognitive skills relevant to their chosen fields of study (Cotti & Schiro, 2004; Mnguni, 2021; Schiro, 2008).

In scholar academic ideology, the lecturers are considered as the primary source of knowledge and are responsible for giving direction to the learning process and students are considered as passive. Learning is viewed from the lecturer's perspective. Consequently, students can only act as passive recipients of already set concepts that are defined within a discipline.

Additionally, in this ideology, students are assessed using what are regarded as objective quantitative instruments that measure the extent to which students can reproduce what they have been taught (Cotti & Schiro, 2004; Mnguni, 2021). From assessments, students can be ranked according to their abilities in the discipline's hierarchy. It is believed that this assessment strategy is valid for assessing availability of knowledge, however, it may have limitations when assessing the ability of students to use knowledge. The problem may arise particularly if knowledge ought to be actionable and applied in unpredictable real-life situations.

3.4.4 The social reconstruction ideology

The social reconstruction ideology promotes social justice through education, where curriculum content must provide students with the knowledge, skills, and values necessary for self-fulfilment and meaningful participation in society as a citizen of a free country, regardless of their socioeconomic status, race, or gender. The objective of social reconstructionist is to correct this unjust situation by removing from its culture aspects that they deem undesirable and replacing them with social values that they deem desirable. By doing this, they hope to reconstruct society so that its members can satisfy their material, spiritual, and intellectual desires to the full extent.

This is a common curriculum ideology within South Africa. Here, the main focus of this ideology is to use education and training to combat the triple challenge of poverty, unemployment, and inequality. Ideologies are always linked to the societal control mechanism, of which people are generally suspicious. However, social reconstruction

ideology may be significant in that it finds answers to the triple difficulties. Nzimande (2019) argues that lecturers should constantly be open-minded and be aware of the social reconstructionist specifically the vulgar, advanced, and critical aspects. Also, lecturers should be critical about these ideologies and should reflect on them to make sure they make sense to them. Management should, as needed, further empower lecturers with knowledge about the relevance of these ideologies in order to use them effectively to foster a sense of patriotism, responsibility and 'ubuntu' among the students. Munir (2022) reflected that a TVET College is effectively meeting the demands of society by preparing young people to function as future competent participating members of society. Therefore, the approaches used for curriculum delivery and the models used for the curriculum determine how ideological knowledge and curricular content are transmitted to students.

3.5 The TVET curriculum

It is clear from the literature that different writers have different understandings of relevance, based on their underlying ideological approaches. Buthelezi (2018) described curriculum relevance as the capacity of education institutions' teaching and learning to adapt to employers' changing demands and, as a result, to supply them with staff who will help them become more competitive economically.

Wedekind and Mutereko (2016) looked at how curriculum relevance is linked to employability. They indicated that curriculum that is unable to adapt to changes in the knowledge base, in technology, in job markets, in business-specific conditions, or in student needs will quickly become outdated and possibly irrelevant, and as a result, the students enrolled in the programme will not be seen as employable (Nkomo, 2023; Wedekind 2016b). According to Alam et al. (2024), a pertinent TVET programme necessitates careful consideration of the requirements of society, employers and the students. This means that technical and vocational institutions situated at Imbali should satisfy the criteria in Wedekind's statement.

The vision of Imbali Hub was to make Imbali a thriving economic node and town centre servicing Greater Edendale's residents as well as Vulindlela as a hub for socio-economic, employment, and economic opportunities. In light of this, the Imbali Hub is the favoured destination for both public and private sector investment in Msunduzi. A lack of adjustment

in vocational and occupational programmes can spell the end for both the programme and the college that offers it.

In this current research, the curriculum as intended consists of FET policy (2006), *Teaching and Learning Plan* (2023), *White Paper for Post School Education and Training* (2013), ICASS assessment guidelines, and subject and assessment guidelines for the courses that are considered for the NCV ERD programme Level 4. The subjects taught for the NCV ERD include vocational subjects like Engineering processes, Professional engineering practice, Applied engineering technology, Fitting and Turning or Automotive Repairs and Maintenance Engineering Fabrication and Welding, Boiler Making or Sheet-metal Work (students choose one of these to specialise in, following on from their choice in Level 2) and fundamentals subjects like English, Mathematics, Life skills and Computer literacy.

Lecturers in TVET Colleges base in-classroom and out-of-classroom activities on subject syllabi and assessment guidelines. The assessment guideline known as the Internal Continuous Assessment (ICASS) for NCV programmes stipulates how learners in NCV are to be assessed. The ICASS forms 40% of the learner's final mark. The subject guidelines for the NCV programme under study come from the DHET.

TVET Colleges offer practical as well as theoretical knowledge. Students acquire skills and practical knowledge, and are then assessed based on practical knowledge and theoretical knowledge. They are assessed on their ability to apply the knowledge learnt through ISAT and writing tests to reproduce what they have been taught in the specific discipline.

3.6 Conclusion

Discussed in this chapter was the conceptual framework which included the definition of the concepts of curriculum as intended versus curriculum as enacted, as well as a discussion of curriculum relevance. I argue that curriculum relevance is related to curriculum ideologies and curriculum approaches. The following chapter presents the methodology I used in the research.

Chapter 4: Research methodology

4.1 Introduction

The former chapter presented a review of the conceptual framework used in this research. This chapter presents the methodology used for the research including the research procedures and research processes. Snyder (2019) define research methodology as the bias-free execution of research processes and procedures essential for the accomplishment of the research goal. The research methodology can also be defined as the supporting methods, the assessment, application, and activity of choice that a researcher can embark on when doing a research project (Carling, 2016; Dehalwar & Sharma, 2023). The methodology of a research project is an indication of how data was collected, organised, and analysed in the research process.

The current chapter presents the research setting, approach, sampling method and size, data collecting methods, data analysis, trustworthiness, ethical issues, and limitations of the research, while the conclusion summarises the contents of this chapter.

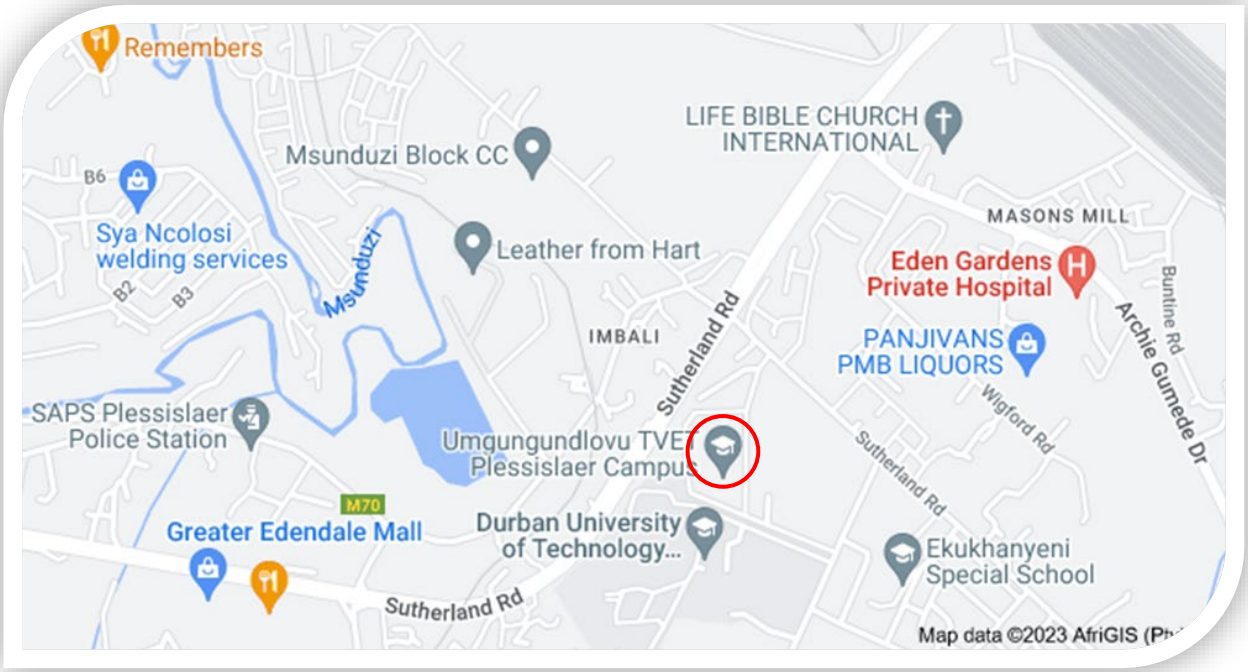
4.2 Research setting

The research project was undertaken at UMgungundlovu TVET College located in Pietermaritzburg in KwaZulu-Natal. The college has 11 campuses. The Plessislaer campus was selected for the purpose of the current research because it offers NCV programmes in Engineering and Related Design (the focus of my study), and because of its location in Greater Edendale which allowed for the exploration of its responsiveness/relevance to the social and economic needs of a developing area. Both NATED and NCV programmes are offered in the college. The students enrolling in the college come from different socio-economic backgrounds. The purpose of the research project was to evaluate curriculum relevance of the ERD Level 4 NCV curriculum at UMgungundlovu TVET College. This was to be done through the exploration of perceptions about relevance of this curriculum at the Plessislaer campus of the UMgungundlovu TVET College.

As stated in Chapter 1, I was not based at this campus or college at the time of the study, nor did I have any relationship with it.

The campus is located in the heart of Edendale, at Imbali. A criterion for selecting a research site stated by Pritchard (2019) is that it should be accessible; have a high probability of a rich mix of the processes, people, programmes, interactions, and structures of interest present; allow the researcher to build relations of trust with participants in the research; and reasonably assure data quality and credibility of the research. The following map (Figure 4.1) indicates the location of UMgungundlovu TVET College, Plessislaer campus.

Figure 4.1: Location of Plessislaer campus (Source: Google Maps)



4.3 Research paradigm

A paradigm is a set of concepts, views, values, and beliefs making up how someone looks at reality (Burke, 2019). Similarly, Karmal (2019) defines a paradigm as a set of beliefs that guide action. Karmal (2019) concur with Burke (2019) that a paradigm means a research culture with beliefs, values, and assumptions that a community of researchers believes in that underpin the nature and conduct of the research. In short, it is generally agreed that a paradigm is a set of beliefs, values, and assumptions for finding the truth.

Considering the definitions of Burke and Karmal, a paradigm has the potential to shape the researcher's belief about how to go about conducting the research. It can shape the focus of the researcher, what methods and processes should be employed when conducting the

research, and how the findings should be interpreted by the researcher. Karmal (2019) argues that there are four crucial beliefs underpinning a paradigm that guide the research activities: axiology (ethics) which is about the role of values in the research process; epistemology which is about the relationship between what is learned in a research process and the researcher; ontology which asks about the nature of reality; and methodology that focuses on the procedures the researcher executes to answer the research questions.

In the interpretative paradigm, participants are observed in their natural settings, and this was the paradigm I used in this study. This paradigm was relevant for the research as it focuses on human action, and believes that all action is meaningful, and can be interpreted (Nickerson, 2022). In the interpretative paradigm, it is also believed that there is no single correct knowledge or single route to knowledge (Nickerson, 2022). The data-gathering methods were used to evaluate curriculum relevance of the ERD Level 4 NCV curriculum at UMgungundlovu TVET College. In addition, this paradigm accommodates the interaction of the researcher with the participants during the data-gathering process, and was thus suitable to the study.

4.4 Research approach

A researcher can follow two main research approaches, which are qualitative and quantitative. Another approach, the mixed method approach, emerged because of the paradigm war that existed in scientific research (Croucher & Cronn-Mills, 2021). The mixed method approach was aimed at closing the gap existing between qualitative and quantitative approaches. A quantitative approach is executed to find patterns and make predictions, test causal relationships, and generalise results to wider populations, while the mixed method approach is executed to expand findings obtained from the initial phase of the project (Leavy, 2022).

In this research, I opted for the qualitative approach because it emphasises the interpretation of the perceptions of the social world of teaching and learning of the participants and occurs in a natural setting (educational institution) where education occurs practically (Creswell & Guetteman, 2018; Mbense, 2019). This approach is aimed at understanding and exploring the means that individuals or groups assign to social problems. Mbense further states that the qualitative approach highlights the way people perceive their experiences and their worldview. Qualitative research encompasses four characteristics, namely, its objective to

provide a rich description of the research findings; the process as inductive in nature; the researcher as an instrument for data collection and analysis; and a focus on meaning and understanding of the way in which people make sense of their world (Azungah, 2018; Wa-Mbaleka, 2020).

In the qualitative approach, the researcher gathers first-hand data directly from the participants (Becker, 2019). The strengths of the qualitative approach are therefore that the findings are considered valid since the researcher is present in the field, and is able to understand and observe some behaviour from the participants (Creswell & Guetterman, 2018; Kang & Hwang, 2021). Also, the researcher is able to get detailed information and validate it by following up if a response is not clear (Pellicano, et al., 2024; Seitova, 2010). However, Karunarathna, et al. (2024), McGrath et al (2018), and Osborne and Grant-Smith, (2021) concur that the qualitative approach is time-consuming as the researcher has to spend time in the field, such as the number of visits to participants for the research interviews.

Irrespective of the limitations, the qualitative approach was suitable for this research because it was aimed at exploring a phenomenon within its natural setting, which was the Plessislaer campus. In addition, the qualitative approach is used in behavioural and social fields. I am a lecturer at the TVET College which is the social field, hence the qualitative approach is relevant in achieving my purpose of exploring the relevance of the NCV curriculum for Engineering and Related Design Level 4 in relation to the needs of the students.

4.5 Research style

This research sought to evaluate curriculum relevance of the Engineering and Related Design Level 4 at UMgungundlovu TVET College. It constitutes a case study, which König et al. (2022) defined as a systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest.

Typically, a case study investigates a programme, setting, event, or other occurrence with the intent of exploring, describing, or explaining it (Chopard & Przybylski, 2021). Yin (1984), and Chopard and Przybylski (2021) all highlight that there are three categories of case studies, namely: explanatory, exploratory and descriptive. An exploratory case study is employed to create a preliminary understanding of the programme or phenomenon under consideration. Exploratory case studies are aimed at exploring any phenomenon that serves as a point of interest to the researcher. On the other hand, a descriptive case study is used to

outline a plan, a circumstance, or a phenomenon while painting a clear picture of what is taking place and who is involved. Descriptive case studies are aimed at describing the natural phenomenon in question. To explain a specific phenomenon, an explanatory case study is utilised to provide the 'how' and 'why' answers. For example, an explanatory case study might explain how a programme is perceived (Yin, 2014). In this case, exploration, as opposed to description, was the main objective.

This study thus adopted an exploratory case study of the students' and lecturers' perceptions of the relevance of the ERD NCV Level 4 curriculum at Plessislaer campus. In an exploratory case study, there is no obvious conclusion within the specific circumstance; generic questions were posed to enable additional investigation into the phenomenon (Alam, 2021). Case studies can be of three different types: intrinsic, instrumental, or collective. Instrumental case studies are best utilised to gain a deeper knowledge of an issue or theoretical question, but intrinsic case studies are best used when the researcher wants to learn more about a specific event, group, organisation, or individual (Kekeya, 2021). On the other hand, for a collective case study, the researcher can choose from a variety of programmes or research sites that are all contained within a single site (Creswell, 2007). Since I am specifically interested in the perceptions on the NCV curriculum, an intrinsic case study was employed for this study

The advantage of a case study is that it provides much more detailed information than what can be gathered through other methods, like surveys. Case studies not only assist in exploring or describing data in real-life environments but assist in explaining the complexities of real-life situations that may not be captured in surveys, such as, for example, feelings and thoughts (Cook & Kamalodeen, 2021). Multiple methods of data collection, like document analysis and interviews, can be used in a case study to provide the complete story. Case studies can provide authenticity and validity of the findings (Nassaji, 2020). A single case study enables the researcher to obtain a deeper understanding of the programme (Ferns, 2022; Mackieson et al., 2019).

The pitfalls of case study research are that it can be lengthy as it aims to provide rich detailed data. Case studies are said to often lack rigour; and biased interpretation of the data may occur (Ferns, 2022; Mackieson et al., 2019).

The case study, in this regard, was suitable because I wanted to obtain an in-depth understanding of the participants' perceptions of the NCV curriculum relevance for ERD Level 4.

4.6 Population and sampling

A population is the totality of persons, events, organisational units, case records or other sampling units with which the research problem is concerned, while a sample is a small subset of this population (Ugwu, et al., 2023). Ugwu et al. (2023) define sampling as the process used to select a portion of the population for study. In this research, not all the students studying, or who have ever studied NCV Level 4 ERD, or all the lecturers lecturing this course were included in the study, but only the portion selected for easier manageability.

Sampling is used for a number of distinct purposes, such as research simplification. It is less complex and difficult, for example, to study a sample of a population that is representative than studying the population as a whole**.** However, sampling must allow the researcher to gather precise cases, actions, or events that assist to clarify and deepen the understanding about the phenomena under study (Nueman, 2011; Ugwu, et al., 2023). The advantages of sampling are that it results in research which is less time-consuming than studying the whole population, particularly if the population is dispersed over a wide geographical area**.** In addition, it can lower the costs of interviewing and observing the whole population. The availability of the participants for the research is increased. A significant disadvantage is that it is impossible to collect all the available data due to time, access, and cost restrictions (Makwana, 2023, Mujere, 2016).

The sample for this research was two ERD lecturers from UMgungundlovu TVET College who had rich knowledge, experience and expertise in NCV ERD curriculum, and six students (two currently enrolled, two alumni and two who had dropped out) who studied NCV ERD Level 4 and who were directly involved in the curriculum concerned. In qualitative research, the selection of participants is logically based on the value of rich data cases and in-depth understanding that is not available in random sampling. In this regard, purposive selection was the best sampling technique that can be executed for accessing appropriate data suitable for the purpose of the research, the questions being asked, available resources, and the challenges encountered (Marks et al., 2017; Nyimbili & Nyimbili, 2024).

Purposive and snowball sampling were used to sample the eight participants of this study. Nyimbili and Nyimbili (2024) refer to purposive sampling as the qualitative research strategy to designedly select unit for analysis. Nyimbili and Nyimbili (2024) and McMillan and Schumacher (2010) support the use of purposive sampling, because the choice of participants

is based on the researcher's knowledge of the sampled participants - a judgment is made about which participant should be selected to provide the best information to address the purpose of the research. Creswell (2009) and Nyimbili and Nyimbili (2024) had the same view on the aim of purposive sampling, which is to identify the relevant participants who have the right information. This is the reason it is frequently executed in qualitative research to identify and select rich sources of data. As mentioned above, the unit of analysis for this study was lecturers and students who were enrolled for ERD Level 4. The framework included lecturers who were currently lecturing ERD subjects, students who were currently studying towards ERD, alumni, and those who did not finish the course. However, in order to find some of the participants, I needed to use snowball sampling, as I discuss below.

Qualitative research involves smaller sample sizes than quantitative studies. Patton (1990) and Sarfo et al. (2021) maintain that in qualitative inquiry, there are no rules for a sample size as it depends on what the researcher wants to know, the research purpose, what will be useful, what will have credibility, and what can be done with the available time and resources. Shaheen et al. (2019) further indicated that sampling is done for the explicit purpose of obtaining the richest possible source of information to answer the research question.

Snowballing sampling (chain-referral sampling) as a form of purposive sampling was also employed in this study to contact alumni students. Snowballing sampling is referred to a non-probability approach where the researcher begins with one group member, who then refers the researcher to another member using the snowballing sampling technique (Akkaş & Meydan, 2024). I executed linear snowball sampling which involved starting with one participant who then provided a referral contact for another participant and the next referral provided a referral of another. This pattern continued until the two alumni and those who did not finish the programme were reached. An email address and names were requested from the initial participant for the snowballed participants. The advantage of snowball sampling was that primary data was collected in a cost-effective manner while the disadvantage is that the participants may be hesitant to furnish the researcher with names of the former students and asking them to do so may raise ethical concerns.

4.7 Data collection methods

Tracy (2024) stated that qualitative methods of data collecting refer to collection, analysing, and interpretation of interviews or participant observation in order to understand and describe meanings, relationships, and patterns. I adopted document analysis and semi-structured interviews for this research.

4.7.1 Document analysis

According to Kutsyuruba (2023), document analysis is a methodical process for reading through and assessing documents, including both printed and electronic (computer-based and internet-transmitted). Document analysis calls for documentary data to be studied and interpreted in order to extract meaning, gain insight, and create empirical knowledge, similar to other analytical techniques in qualitative research.

Documents to be analysed in qualitative study inquiry can constitute memoranda, reports, quotations, excerpts, personal diaries, programme records or official publications, and open-ended written responses to questionnaires. This involves collecting documents and other related materials, the content of which may not have been acquired through other data collection techniques. Kutsyuruba (2023) highlights that documents are principal sources of data for qualitative researchers, and in document analysis, the researcher is directly involved in the data analysis and collection.

Morgan (2022) asserts that information in education can originate from primary and secondary sources, with the primary source being preferred as reliable and authentic. Hurworth (2005, p. 119), recognising that document analysis provides a good basis for evaluation of educational programmes, comments that ‘document analysis is significant for gathering data about a programme, understanding the nature of the programme and finding out the underlying reason behind the establishment of the programme’.

The advantages of document analysis are that documents provide valuable information that might not be accessible when using semi-structured interviews (Denzin et al., 2023). Documents also provide the stimulus for questions that can be pursued through direct observation. The data obtained from documentation is stable in that it can be consulted prior to and revisited after the research. In addition, it is an efficient method, in that it requires data selection instead of data collection. Creswell (2008) affirms that documents are vital materials for the retrieval of data.

A disadvantage can be that documents are usually produced for some purpose other than research; they are created independently of a research agenda. As a result, they usually do not provide sufficient detail to answer a research question. Also, as noted by Yin (1994), access to documents may be deliberately blocked.

In this current research, document analysis was a complementary data collection procedure in support of triangulation. It was suitable for this research because the findings obtained from this research can be executed as a frame of reference in the future for the next generation of researchers. In this research, the documents were evaluated in a content-analytical way so as to check if the TVET curriculum respond to the needs of students and how TVET Colleges can enhance the curriculum to support of the needs of the students. Documents analysed included: *FET College policy* 2006, *Teaching and Learning Plan* (2023), the *White Paper for Post School Education and Training* (2013) and TVET policy 2006, *Teaching and Learning Plan (2023)*, *NCV Integrated Continuous Assessment (ICASS) guideline (2023),* and the NCV assessment guidelines and subject guidelines for the seven subjects for Engineering and Related Design Level 4. These are: *NCV Assessment guidelines for Fitting and Turning (2015)*, *NCV Assessment guidelines Engineering Processes (2007)*, *NCV Assessment guidelines for Professional Engineering Practice Level 4 (2007)*, *NCV Assessment guidelines for Applied Engineering Technology (2007)*, *NCV Assessment guidelines for Mathematics Level 4 (2013)*, *NCV Assessment guidelines for English First Additional Language Level 4 (2015)*, *NCV Assessment guidelines for Life Skills and Computer Literacy Level 4 (2020)* as well as the *NCV Subject guidelines for Mathematics (2013)*, *NCV Subject guidelines for English First Additional Language Level 4 (2015)*, *NCV Subject guidelines for Life Skills and Computer Literacy Level 4 (2020)*, NCV *Subject guidelines for Professional Engineering Practice Level 4 (2007)*, *NCV Subject guidelines for Engineering Processes Level 4 (2007)*, *NCV Subject guidelines for Applied Engineering Technology Level 4 (2007)*, and *NCV Subject guidelines for Fitting and Turning (2007).* NCV ERD Subject and assessment guidelines for seven subjects, NCV ICASS guidelines for 2023, and lesson plan, attendance register for students, and timetable were considered significant in this context and were evaluated chronologically.

4.7.2 Semi-structured interviews

An interview constitutes verbal communication between the participant and the researcher for data-gathering purposes which can be either face-to-face or virtual. Interviews can be

categorised into three types: structured, semi-structured, and unstructured. In structured interviews, the researcher prepares an orderly list of questions for the interview, while in unstructured interviews there is no list of questions; instead the researcher has a general idea of the outcomes of the interview. Unstructured interviews have no predetermined set of questions; questions are determined by the response of the interviewee. Semi-structured interviews include some pre-set questions, but require considerable further probing of what interviewees say in response to these. Ruslin et al. (2022) refers to a semi-structured interview as an in-depth face-to-face encounter between the participant and the researcher aimed at understanding the perspective of the participant's situation or life experiences expressed in his or her own words.

The strength of interviews is that the researcher can ensure that all the questions are answered unlike in the case of questionnaires in which completeness is not assured. Semi-structured interviews allow for a wide range of data to be gathered as the researcher has the capability of probing, thus obtaining rich data. Probing assists to understand the participant's opinions precisely, which might have been impossible with questionnaires. Roberts (2020) commented that a skilful interviewer can follow up on ideas, probe responses, and investigate motives and feelings, which questionnaires can never do. Complex questions can be executed which would be inappropriate in the case of questionnaires. This method of data collecting allowed dialogue between the participant and researcher for the construction of a meaningful reality.

The weaknesses of interviews include possible time constraints. In addition, interruptions like emergency meetings, illness, and personal problems or joys such as when the interviewee has a birthday party can affect the success of the interview. Interviews are costly and difficult to administer (Adeoye-Olatunde & Olenik, 2021).

The purpose of my research was to evaluate the NCV curriculum of ERD in terms of whether it responds to the economic needs of the students of UMgungundlovu TVET College, Plessislaer campus. Therefore, for my research, I opted for open-ended, semi-structured interviews. Semi-structured interviews were used to gather the lecturers' and students' perspectives on the relevance of the NCV ERD curriculum. Since the interview was open, it allowed new ideas, beliefs, and feelings to be brought up during the interview, hence, rich data was obtained directly from participants. Qualitative researchers prefer participants to express themselves in their own words or other actions. Semi-structured interviews were also

suitable because they permitted participants to air their perspectives freely, thus providing as detailed information as they wished about the NCV curriculum for ERD Level 4.

The interview schedule (see Appendix D) was executed in order to keep track of the significant research questions. I used a three-phased interview process. In the first phase, I visited the research site for an introduction and explained the purpose of the research to the participants and the ethical issues (anonymity and data confidentiality). English was used as the participants' preferred communication language. The second and the third phase were done on the same day because of time constraints. The second phase was a bio-demographic section that participants had to fill out (Section A) and in the third phase, the individual interviews were conducted face-to-face, for a duration of one hour.

Interviews were audio-recorded, with the consent of the participant. Questions were asked separately and the responses given were used to identify the common patterns, themes, and trends that emerged. The transcriptions were read by and discussed with my supervisors to mitigate against biased interpretation.

4.8 Data analysis

In my presentation of the data in Chapter 5, the translations of the interviews are presented in narrative format. It is these transcripts that were used as the basis for analysis. Data analysis involves methodically analysing and organising the gathered field notes, interview transcripts, and other resources in order to improve comprehension and communicate the findings to others in a logical manner (Alem, 2020, Badenhorst & Radile, 2018). McMillan and Schumacher (1997, p. 508) stated that "Data analysis in qualitative research consists of preparing and organising the data, reducing the data into themes through a process of coding and condensing the codes, and representing the data in figures, tables or discussion". It involves breaking up data into manageable themes, patterns, trends, and relationships (Cohen et al., 2017; Naeem et al., 2023). It can be noted that researchers categorise data into predetermined groups and identify the groups in order to help them find commonalities, patterns, and variances in a process called coding.

The semi-structured interviews and documents were first analysed using inductive thematic analysis; and then deductive analysis was conducted using key concepts derived from my conceptual framework. Deductive analysis can be used to organise data or sort data into predetermined categories created from literature or theory. Deductive codes can be developed

as purely organisational categories (like the type of data or when it was collected), categories based on the research purpose or questions (like the main topics of the research or key aspects of the research questions), or as categories generated from the literature and/or from theory (like the named concepts from the theoretical framework) (Bingham and Witkowsky, 2022). Fife and Gossner (2024) define deductive analysis as a process that allows qualitative researchers to use existing theory to examine meanings, processes, and narratives of interpersonal and intrapersonal phenomena, which is what I did in my study.

Coding in the qualitative research process is referred to as an act of summarising text or data with a conceptual description. Mohajan and Mohajan (2022) and Creswell (2013) present three types of coding: open, axial and selective. The data collected during this research was coded and reviewed on three occasions using open, axial and selective coding. In the case of open coding, the data was broken down, examined, compared, conceptualised and categorised and yielded concepts that were later grouped into categories (Mohajan & Mohajan (2022). On the other hand, axial coding involved thinking about the concepts or themes to discover key analytic categories. Another scholar, Tracy (2024) adds that axial coding links codes to consequences, to context, to patterns of interaction and to causes. Selective coding followed, which involved selecting the core category, systematically relating it to other categories, validating relationships and filling in categories that needed further refinement and development. This type of coding involves reorganising specific themes identified in earlier coding and elaborating on more than one theme (Tracy, 2024).

Thematic analysis was applied for the analysis of the oral semi-structured interviews and the documents selected for document analysis. Responses from semi-structured interviews were transcribed and repeatedly read to acquire a sense of the whole data set and identify themes that emerged. A theme captures significant elements of the data in relation to the research question and represents some level of patterned response or meaning within the data set (Braun & Clarke, 2006; Byrne, 2021).

Nowell et al. (2017) and Naeem et al. (2023) highlight that thematic analysis includes sorting and sifting pieces of data to detect and interpret thematic categorisation, as well as searching for gaps and contradictions, and generating conclusions. The process of developing themes continued until there was no further possibility of new themes or categories emerging from the data. Lastly, themes were interpreted providing a comprehensive perspective on the curriculum relevance at UMgungundlovu TVET College in Greater Edendale.

4.9 Trustworthiness

Researchers are more concerned with achieving authenticity in qualitative investigations than they are with discovering a singular version of 'Truth'. Being authentic implies providing a fair, honest, and balanced portrayal of social life from the perspective of those who experience it on a daily basis (Meydan & Akkaş, 2024). Trustworthiness or rigour of a study refers to the degree of confidence in data, interpretation, and methods used to ensure the quality of a study (Kakar et al., 2023). Triangulation, transferability, confirmability, credibility as well as dependability are all aspects of trustworthiness relevant to the qualitative approach (Enworo, 2023).

4.9.1 Triangulation

Triangulation refers to the use of two or more methods of data gathering in studying human behaviour (Kansteiner & König, 2020). Kansteiner and König state that triangulation confirms the validity of the phenomena. Triangulation limits unrealistic research results that can be a result of a single method (Caillaude & Flick. 2017; Kelle et al., 2019). For my research findings to be realistic, I used different methods of data gathering which were semi-structured interviews and document analysis. These data-gathering methods complement each other, making the research design stronger with more reliable and trustworthy results. Kansteiner and König (2020) pointed out that the inadequacies of a single method are not always recognised, but only the threats to internal validity are identified, recognised, and addressed.

This research sought to explore the curriculum relevance of the ERD Level 4 NCV. Therefore, Meydan and Akkaş (2024) triangulation through use of different data sources was executed, because no single source of information can be trusted to provide a comprehensive perspective. It was important to obtain the perspectives of the active participants in this research in order to understand the comprehensive perspective on the curriculum relevance of the NCV ERD Level 4 to the social, cultural, and economic needs of the students at the Plessislaer campus.

4.9.2 Transferability

According to Shenton (2004, p. 69) transferability refers 'to how well the study conclusions can be applied to other similar settings'. Transferability in this case is the extent to which the results can be transferred to a context that is similar to the Plessislaer research site). However,

in this current research, the results cannot be transferred to another college as the research was conducted in only one college out of the fifty colleges in South Africa.

4.9.3 Confirmability

Confirmability refers to the accuracy and confirmation of data collected and analysed (Korstjens & Moser, 2018; Nassaji, 2020). Confirmability is done through member checking (checking the data collected with the source). However, in this study transcribed data sets were not returned to respective participants to ensure the accuracy because of time constraints.

4.9.4 Credibility

Shenton (2004) defined credibility as the validity of the conclusions that are drawn from the data and how these conclusions match the reality being reported on. Credibility includes the authenticity of the data obtained together with the process of meeting the objective of the research (Amin et al., 2020; Korstjens & Moser, 2018). To achieve credibility in this research, I audio-recorded the interviews, and then transcribed them. For credibility, the researcher should address what the expectations of the research are, in this case, the evaluation of the relevance of the ERD NCV Level 4 TVET curriculum.

4.9.5 Dependability

Dependability can be considered as the trust in trustworthiness. According to Elo et al. (2014) and Megheirkouni and Moir (2023), dependability refers to the stability of data over time and under different conditions. Meaning, obtaining the same data after redoing the same research with the same objective. Dependability of findings was ensured through the selection of participants who were appropriate for the study; these were the students and the lecturers at the Plessislaer campus of UMgungundlovu TVET College who have rich information about ERD Level 4.

4.10 Ethical considerations

Research ethics prevent research abuses or any causes of harm to participants (Buchanan & Warwick, 2021; Haines, 2017). They relate to research procedures that are regarded as legitimate and those that are not (Davies, 2020).

I was granted ethical clearance by the University of KwaZulu-Natal (see Appendix A) and obtained permission from the Principal of UMgungundlovu TVET College to conduct

research at the college, as well as permission from DHET (See Appendix B). A letter was issued requesting participants to take part in the research, and they were asked to sign an informed consent form. Informed consent involves full disclosure of the aim, objectives, and potential risks/benefits to the participants as well as reassuring them that they have the right to withdraw at any point in the project. Participants were informed that there was no financial benefit to participating. I also disclosed that I had permission from the Department of Education and the college, and ethical clearance from the University of KwaZulu-Natal.

Kang and Hwang (2021) emphasises that identities and records of individuals should be maintained as confidential and that care must be taken that individuals are not identifiable when findings are being published. Akuffo (2023) highlighted that confidentiality consists of concealing the identity of study participants. Concealing the identity of participants may serve as a guarantee of the authenticity of their statements, thus increasing trustworthiness. Due to my small sample size, chances of confidentiality being compromised was high because, for example, only a few lecturers were lecturing the subject. I thus kept personal information to minimum, not revealing ages or other personal information that could identify them. had to remove the years of the participants and location for the participants. I ensured that participants knew about the steps I would take to keep them anonymous, and made sure they knew they could withdraw at any time.

For confidentiality, I opted for codes that were comprised of the participant's first letter of the middle name, and the birth month of the participant. For example, using my own name, Nombulelo Vuyiswa Masuku, and my birth month, November, I would be coded V11. No names are revealed in this dissertation.

4.11 Limitations of the study

As discussed above, transcribed interviews were not returned to respective participants to ensure their accuracy because of time constraints. However, interviews were audio-recorded, and transcribed and then the transcriptions were checked against the recordings for accuracy.

The participants in this study were also all males. Many females are also part of the engineering programme nowadays, and not including them in my study is a major limitation. I think the fact that I ended up with only male participants could be because of the sampling strategy I used (snowball sampling). Both lecturers involved in the study were male, and gave me names of only male students, who then gave me the names of only male students, thus

reinforcing existing gender patterns and stereotypes, particularly in the Engineering field. This is a potential problem with snowball sampling as a research technique.

The small number of participants and the single TVET College case study limits the potential of the research findings to be generalisable, as is the case with all case study research

4.12 Chapter Summary

In this chapter, the processes and procedures used to answer my research questions were presented. The interpretative paradigm and qualitative research approach were deemed appropriate for the study. A case study research method was used to tell the unique story about UMgungundlovu TVET College, focusing on the Plessislaer campus as a research site. The case study involved the use of two data-gathering methods: semi-structured interviews and document analysis. The purposively sampled participants (students and lecturers) were made aware of the ethical issues of the research that involved confidentiality of data and anonymity. The following chapter presents the data generated as part of this study.

Chapter 5: Presentation of the data

5.1 Introduction

The previous chapter presented the research methodology and explained that a case study framed in an interpretative paradigm was used for this research. In my study, I aimed to answer the following research questions

1. What informs the provision of the NCV curriculum?
2. How has the NCV curriculum changed over time?
3. What are the key stakeholders' perceptions on the relevance of the NCV curriculum to students in the Plessislaer context?
4. How can the relevance of the NCV curriculum be improved?

This chapter presents and discusses the data generated to answer these questions using two methods, namely document analysis and face-to-face semi-structured interviews. Document analysis was conducted first, to allow me to address any issues arising from this in the interviews. In my presentation of the interview data, the translations of the interviews are presented in a narrative format.

5.2 Documents analysed

Data was collected through examining curriculum documents for the NCV ERD Level 4 curriculum. Documentation was divided into two categories, documents related to the intended curriculum, and those related to the curriculum as enacted. Documents related to the curriculum as intended included the *Further Education and Training Act* (2006), *White Paper for Post School Education and Training* (2013)*, Teaching and Learning Plan* (2023), and *NCV Integrated Continuous Assessment (ICASS) guideline* (2023); and the NCV Subject Guidelines and Assessment Guidelines for the seven subjects for Engineering and Related Design Level 4, viz. Fitting and Turning, Engineering Processes, Professional Engineering Practice, Applied Engineering Technology, Mathematics, English First Additional Language, Life Skills and Computer Literacy.

The documents analysed are indicated in Table 5.1 below.

Table 5.1: Curriculum as intended documents analysed (in chronological order)

Document title	Date	Author	Content of document
Further Education and Training Act 2006 Policy	2006	DHET	The policy document indicates the significance of TVET colleges that it enables students to get the practical skills and knowledge that is relevant to the work environment, that would enable students to further their studies and be able to apply occupational and vocational trade.
NCV Assessment guideline Engineering Processes L4	2007	DHET	This document guides the lecturer with the guidelines for developing integrated and coherent assessment system for this subject.
NCV subject guidelines Engineering Processes L4	2007	DHET	The document highlights the subject and learning outcomes, assessment, passing requirements and calculation of the final mark
NCV Assessment Guidelines for Professional Engineering Practice L4	2007	DHET	This curriculum document that guides on the assessment of the subject, subject and learning outcomes and passing requirements
NCV Subject guidelines for Professional Engineering Practice	2007	DHET	The curriculum document indicates the subject and learning outcomes, passing requirements and final mark calculation.
NCV Assessment guidelines Applied Engineering Technology L4	2007	DHET	This document indicates the subject and learning outcomes, passing requirements, final mark calculation, and assessment of the vocational subject
NCV Subject guidelines Applied Engineering Technology L4	2007	DHET	This document highlights the duration, subject outcomes and learning outcomes, passing requirements and calculation of the final mark for the vocational subject
NCV Subject guidelines for Mathematics L4	2013	DHET	The curriculum document that guides the lecturer on subject and learning outcomes and assessments of the subject
NCV Assessment guidelines for Mathematics L4	2013	DHET	This is a state curriculum document that is aimed at guiding the lecturer with guidelines to implement coherent, integrated assessment system for the subject
White paper for Post school education and training 2013	2013	DHET	The white paper identifies the youth unemployment problem as the main challenge to be addressed through building an integrated post-school education and training system. The White Paper proposes increasing access to TVET colleges as part of addressing the problem of high numbers of youth unemployment: Government expects that TVET colleges will become the cornerstone of the country's skills development system.
NCV Subject guidelines for English First Additional Language	2015	DHET	The curriculum document that gives guidance on the subject and learning outcomes, assessments and mark allocation

NCV Assessment guidelines for English First Additional Language L4	2015	DHET	The curriculum document that states how to plan and carry out internal and external assessments
NCV Assessment guidelines for Fitting and Turning L4	2015	DHET	The curriculum document that gives guidance on the carrying out vocational subjects' assessments
NCV Subject guidelines for Fitting and Turning L4	2015	DHET	The document gives guidance on the assessments, passing requirements, subject and learning outcomes and duration time of the subject
NCV Life Skills and Computer literacy Assessment guideline	2020	DHET	The curriculum document is aimed at guiding the lecturer with guidelines to implement coherent, integrated assessment system for the subject
NCV Life Skills and Computer Literacy Subject guideline L4	2020	DHET	The curriculum document indicates the subject and learning outcomes, passing requirements and final mark calculation.
NCV ICASS Guidelines 2023 TVET Curriculum Instruction (Internal Continuous Assessment (ICASS) guidelines for the NC(V) qualifications	2023	DHET	This document tracks the responsibilities required to develop the quality of curriculum delivery with the intention of improving student progress.
ICASS tasks	2023	DHET	ICASS tasks displays assessment tasks performed
Timetable	2023	DHET	Form of a curriculum management tool for managing curriculum delivery time. This tool indicate what must be taught on a specific time.
Teaching and Learning Plan 2023 Technical and Vocational Education and Training (TVET) Colleges	2023	DHET	The TLP document states that colleges must be able to demonstrate the capability of the college to implement new and innovative curricula in short cycle and the ability of the college to show responsiveness and appropriateness of the college Programmes and Qualification Mix.

Documents related to the enacted curriculum included timetables, lesson plans, and ICASS tasks. I also looked at attendance registers for students (February, June and October). February is after registration and the commencement of classes, while June is towards the end of semester. These attendance registers allowed me to determine the number of students who enrolled and those still attending the course, while the October register allowed me to verify the number of students that qualified for writing the course assessments. The attendance registers allowed me to trace the number of students who had dropped out, and to determine

the throughput rate of the programme. Attendance is good in the first trimester, then gradually decreases until the final examinations in November.

5.3 Interview data

The face-to-face semi-structured interviews were conducted with eight participants (two lecturers, two current students, two students who did not complete the programme, and two students who successfully completed the programme) to generate the data for this research. For the purposes of confidentiality, code names are used for the participants.

The lecturers and the currently enrolled students were easily available, because at the time of the interviews, the college was still open, and interviews were conducted on the campus at a time that did not disturb the teaching and learning process. However, for the students who had completed their studies or had dropped out, there was a challenge in getting in touch with the participants. They were scattered across Greater Edendale, and I sometimes travelled to their various locations, only to find that they were not available for the appointment due to changes in their work schedules. Nonetheless, all interviews were successfully conducted.

I could see that students were not relaxed and that I had to create a conducive interview environment for them. I think that the term 'interview' was intimidating, and they assumed it was something difficult, testing their intellectual capacity. I started by stating the ethical considerations, highlighting that the research was for academic purposes, and there was no correct or wrong answer, and their views mattered. I told them I had permission from the college and UKZN to conduct the research. I also stressed that only codes were to be used, and not their names, so as to make them feel comfortable to express themselves. Table 5.2 below presents the demographic data related to the participants.

Table 5.2: Demographic data

Participant code	**Role**	**Length of time lecturing**	**Sex**
N05	Lecturer	10 years	Male
K12	Lecturer	3 years	Male
Participant code	**Role**	**Year of enrolment/ completion/drop-out**	**Sex**
S11	Completed student	2022	Male
N12	Completed student	2021	Male

S05	Current student	2021	Male
M02	Current student	2021	Male
D03	Dropped out	2021	Male
G05	Dropped out	2022	Male

I have noticed that all of the participants are men. This brings to mind the writings of Babalola (2019) who discussed gender and engineering stereotypes. They said that engineering is a gendered profession that is associated with men and is known to be manly and harsh. Women in engineering are thought to be weaker, more dependent, fragile, and less intellectually capable than men. Given that it was common to assume that women belonged in the kitchen, Clavijo (2024) agreed with Babalola (2019) that female students pursuing engineering degrees may experience low self-esteem due to the perception that they are incompetent and that their fear of operating machinery and equipment during practical exams may be the cause of the low enrolment of female engineers. Avolio et al. (2020) and Sikhosana et al. (2023) on the other hand, hold a different opinion, claiming that there was a rise in female access to and participation in initiatives that were exclusively for men. According to Forkuor et al. (2020) there have been ideological shifts in the traditional conception of gender roles, including plans for child care and planned pregnancy as a means of addressing work-life balance concerns. Subsequently, more women are gradually taking the course.

The interviews were audio-recorded, transcribed and translated. Below, I present the data collected from each of the research participants. In each case, the responses to the specific questions (and to further probing questions) have been collated under four broad headings, viz. curriculum purpose, curriculum delivery, curriculum relevance, and how relevance could be improved. Interview responses are edited slightly to improve flow.

5.3.1 Lecturer N05

I am employed as a TVET lecturer at UMgungundlovu TVET College. It has been quite an interesting journey.

Curriculum purpose

The purpose of a TVET college in general, I can say, is to promote skills of the students and community. It is more about skills. Curriculum as a concept means another way of giving

learners more practical work in their studies. Therefore, the purpose of the NCV curriculum of ERD is to promote the wealth of the country by training students in order to be more employable around South Africa.

Curriculum delivery

I normally plan according the topics of the lesson I teach each day. I use the textbooks, whiteboard and markers, laptop, YouTube videos, workshop equipment like car engines and gearbox and tools as learning materials. Time allocation for each period is not enough. We teach theory and practical work. Previously, we were spending 4 hours in workshop, now it is like 2 hours. Preparing tools for practical work need a lot of time and we have to give them theoretical part first before they engage with the practical. The curriculum (FET Act 16, 2006) says the practical part must be 70% and 30% theory. However, the opposite is true currently because the theory is taking the 70% while 30% practical work. We doing more of theory than practical work. We need more time for the lessons.

Lecturing is interesting especially if you have passion for it. However, there are challenges in the field just like in any other job. One of the challenges is the calibre of the students, and their behaviour. Other students are from high school and they come with Maths literacy while we need Pure Maths and that give us a challenge in teaching those students. And high failure rate is imminent. When you are to do engineering, you must have Pure Maths from high school. According to our understanding you must have Maths and Science as well as English. Their behaviour is negative, they tend to have negative attitude towards the course because they do not have Pure Maths when they come to the TVET. There is also a lot of paperwork than teaching. We have to compile files, marking assessments, marking and monitoring attendance registers and set papers. And the respect. Some of them do not even respect us. I do not have a challenge with the teaching process as long as I come to class prepared.

The types of assessments are good and fair because we assess what we taught. The assessments are set according to the curriculum. Nothing from us. We have two tests and two practical assignments, ISAT, trial examination and final examination in November. We do assessment from DHET, especially the practical assignments. I have noticed that students normally pass assignments because they have all the time to do it at home and research and practical work because they like practical work as compared to theory. They tend to fail tests, reason being that they are lazy to read their notes. It is unlike before when NCV was

introduced. When you compare past students and this ones, these ones are not serious. We used to get 100 % pass before. And they fail exams because they are monitored.

But there is something that is not good that I can talk about, for example, if you wish to give our learners more practical work, we fail because we only focus on the syllabus unlike before, example when you have any car that you can use to give more clarity to our students for their practical or reference, we had that chance to do so. Now we do not have that chance because we have to focus on this syllabus that is long and with short duration of the lesson - 45 minutes.

Previously we had something called a Modula. For example, in Modula, when you doing Engine overhaul, you have to do a theoretical part of it and you have to pass with 80%. If you scored less than 80% you have to repeat until you score above the 80%. So that Modula helped us a lot because once you done the theory part then you have to go for practical part on the very same subject - Engine overhaul. It helped because it worked hand-in-hand with theory and practical of the Modula.

Now it is not like that. The curriculum has changed for worse (laughed). They do practical work even if they have failed theory and vice versa. The students come to TVET colleges for more practical than theory. So, we teach them more than giving them the practical part and they get fed up. Even their parents on registration you can hear them saying that their children need more practical because they are failing theory at high school. But when they come here, it's totally different. More theory than practical. As a result, you find that we enrol 120 students in Level 2 but only 12 will reach Level 4. Some drop out and other students are failing because they did not have Pure Maths and the three years is long.

Curriculum relevance

I am lecturing ERD Applied Engineering Technology and Automotive Repairs, it has calculations. I like calculations and hands-on tasks, and Automotive Repairs I understand most. I feel relieved when I am teaching something that I like to do like practical or hands on tasks. I like teaching practical. The NCV programme is a great programme. As I said before, its purpose was to provide skills to students and community. That can be true if we are provided with adequate learning equipment for practical subjects. Previously, our practical tasks were conducted maybe after two years. Now it is better. This was because the suppliers of the equipment were taking time to deliver. I am talking about practical equipment like cast iron. The practical materials were scarce. Sometimes we would travel to uMfolozi TVET

College to network with other lecturers on how to conduct those practical assignments like ISAT or take our students there if the materials were not delivered.

I am of the opinion that if the curriculum coordinators could give us on how to conduct those particular materials. Also, I have a problem here when the practical assignments (ISAT) change, we as lecturers, we are not guided on how to conduct it. If they can send us the changed practical assessments together with a link for instructions, then it would be easy for us to conduct practical assessments. I can say that we are lacking guidance and support from subject advisors.

I can say there is a gap between curriculum developers and lecturers because if they can include us the most, we can highlight the scarcity of the materials in terms of suppliers and also we can state that we need a link or a disc with instructions of conducting those practical work. It becomes hard for me to implement the curriculum while it is stated in the curriculum that I must do that practical because practical assessments at times comes with lack of information.

The NCV programme's knowledge and skills outcomes match the industry requirements though we are teaching less of practical work but it does match the industry requirements. We are teaching the students the introduction to or the basics of the industry. We teach them the book and a bit that is in the industry. It would be better if the students can visit the industry maybe for one week just for exposure not work. I can attest that the NCV programme is responsive to the training needs of the engineering industry because we also do pressure, compressor tests and injectors in Automotive Repairs that is also done in the engineering industry. When they go to the industry, they will need to apply this knowledge. We also learn about sensors, because they are to do with gear box of the car. It is important that the students acquire skills that are responsive to their world of work.

Having taught the programme for many years, I cannot regard any part of the programme as irrelevant, but I can suggest that the subject Life Skills and Computer Literacy to simply be all about the computer literacy not the theory part. Also, it assists to include Engineering Drawing up to Level 4. I think the NCV programme needs to be improved so to better address the needs of the industry. As now, we are using petrol and diesel car engine for the students' practical work, while the industry has introduced electric cars. So we getting behind. If we can get a car that is hybrid or electric for our practical work in the workshop, that can

improve our curriculum and better address needs of the engineering industry and make our NCV curriculum responsive, thus making our students employable.

My perception on this programme is that it is a good curriculum, if we can focus on practical work. It equips students with skills that they can use even beyond, like starting their own car repair workshops. Students are learning a lot. Especially with the car engine, we can generate electricity, pump water, and cut wood. The engine of the car can run anything. It can be used in the generator when there is no power. For effectiveness of teaching and learning, students need to be exposed to the industry to see what is in the industry, to expose them to industry and have adequate practical resources. We went to ISCOR to show them how boilers work. If we can once a term take our students to industry that can make our teaching and learning effective because student will gain experience. We once visited a plant in Pietermaritzburg dam, to see how water is used to generate electricity. That visit gave students an idea of what is happening outside in the industry and they get excited.

We used to go for training the time they were introducing ERD curriculum. We used to go for partial training in the training centres - they were giving us just highlights. They were not effective. Now we are using our experience. No support from curriculum coordinators.

When there is something new, we must go for the training for that. For example, when there is a new BMW car, we used to go for training. Lecturers used to go for six months to industry. That was helping us because it made us relevant since we were updated with the new technology occurring in the industry.

Also, we did not have challenges when students question us in class because we had updated information. Now you feel shy when a student asks a question pertaining to any new cars in the industry because you do not have much information. Students now use YouTube, when they ask something they have already seen it from YouTube. You dive and duck and go and research about it. Previously, students have 6 months contact and 6 months in the industry, N2 and N3. There was no NCV that time. It's not like that with NCV. Using the past curriculum, they were employable. All they were doing was aligned with the curriculum. The old curriculum was top.

If they can get more practical work, students can be motivated. They are looking for practical work most of the time. They become bored when you teach them theory. Not that theory must not be taught, but less.

Being a lecturer for ERD Level 4, I have learned a lot, working with students both female and males. The ratio before was more males then females. Before, if you have one lady that was enough. Now it is the opposite, more females than males. And they (females) are willing to learn. I have gained knowledge and have learnt a lot on how to teach students in the college, and went to varsity to learn how to teach (methodology). I have more than 10 years teaching experience. With the experienced gained, I am also having my own practical part (business) at home that I attend to on weekends and on holidays.

Also, considering my lecturing experience, I think a lot of students come with a lack of knowledge of understanding what is happening on our curriculum. Some students, they are into drugs and fail to cope with the learning. They students tend to be bored by how our curriculum is, more of theory than practical work, and have negative influence from other students or relatives, you can see when you are trying to teach them that they are not in class.

Some of the reasons for low throughput and drop out is that they are unsure of the employment possibility and they want to know how much they are going to earn. Some they are coming for NSFAS, if they are not receiving it they strike and dropout. Some they come to sell drugs in the campus. Just to sell only and then drop out.

The students' attendance is bad. It about 80 to 90% at the beginning of the year. In the middle of the year, they drag their legs. During their exams or assessment time they attend to write. That is the reason they underperform because they are not attending classes.

ERD is a good programme it does meet the needs of the students because we do have students that are working. It is just that students need to give themselves enough to understand the programme. Also the programme meets the needs of the community, but not all the trades. For example, Fitting and Turning, in order to run it in the community, it requires huge expensive machinery or equipment, but with Automotive, you can be able to repair peoples' cars in the community and with Fabrication, you can also make some money with that one because, you can do gates and burglar gates. These trades can be good for the community.

Improving the relevance NCV Engineering and Related Design programme

My view on the NCV, is if they can train lecturers to get more understanding about the curriculum as a whole. Because engineering is difficult as compared to business studies. They (curriculum coordinators) can take us to different types of training and be able also to take our learners to the industry so that they can understanding of the ERD curriculum.

If they can develop Automotive Repairs. Automotive Repairs goes with technology. If there are new developments in cars, this also must be the case with Automotive Repair as a trade subject, since cars develop all the time. Now we have electric cars, technology is changing all the time. In the workshops on the campus, students must be learning about those cars and be assessed on it.

I think the college can provide us with laboratories and simulation rooms because we do have workshops on the campus. In these laboratories we can do materiology, which is the study of different types of materials and we can conduct experiments in the laboratories. Simulation room is where we will build something and it moves, so to see the practicality of something more.

In my conclusion, I can suggest that the introduction of NCV programme early as in Grade 8 in high school can help. Students can choose their subjects and careers early. They can maybe go for Agriculture or Engineering. They can be able to do what they understand best unlike waiting to see their failures then choose paths. Students as early as from Grade 7 can do welding, electricity automotive and woodwork, so when they choose their career path they would at least have a clue of what to expect and continue with that even if they choose to go to a TVET.

Also if they can remove NSFAS allowance from students because it makes students not to focus on college work.

5.3.2 Lecturer K12

I am a lecturer at UMgungundlovu TVET College. I have been lecturing Boiler making for three years now. I was a student in this college doing ERD NCV in 2012. Then I studied further until I am here today. After completing my NCV ERD programme, I continued to the NATED programme, then to Mangosuthu University of Technology, still studying Mechanical Engineering. Being a lecturer, to me, is an inspiration to these young people that there is light at the end of the tunnel.

Curriculum purpose

The purpose of a TVET College is to upskill young people. A curriculum is a course. The purpose of NCV ERD in most cases is to get artisans.

Curriculum delivery

I plan my daily lessons based on the students' abilities, the materials I have, and the 40-week plan that indicates which topic I should be teaching by that time. As a former student in the college, the time allocated for lecturing is not enough, because I have so much to cover and there is a lot of paperwork. Especially because we have the practical part and theory part that both need to be done. Also, I need to consider that some students are still adapting to the course. We have students from high school who still need to understand Pure Maths since they never did it in high school and they are not used even to the programme itself. It is not easy for them to adjust to this kind of learning (tertiary). The chances of that student continuing with the course are very slim.

In fact, so much time is needed. Because of time I do practical work and theory simultaneously. I bring some of the tools that are portable to class. It works for me that way. We also go to the workshop so that they master how those tools work, how to keep them safe and storage. I prefer 2 hours for practical work and 1 hour for theory. Another thing, understanding the nature of the students, they do not like theory. So I spend the 45 minutes in teaching them both.

Another thing is that the timetable we are using does not have time slots for practical work or theory but it only indicates the subject. Then I as a Boiler maker lecturer will determine when to do my practical work and theory depending on my lesson plan of the day. All periods are equal (45 minutes).

My teaching materials are simple. They include chalk board, chalk, tools and equipment like bending machines, grinder, compressor, measuring square, and textbooks. I must mention a workshop too. I think currently the curriculum is still requiring me to use these materials, it has not yet reached the level of the 4th Industrial Revolution as in the industry. The industry is continuously adapting to the change in technology. I think we, as TVET colleges, need to be getting the equipment and tools that match the industry.

Lecturing is challenging because it is like you are trying to mould someone who does not know what is going on about the course. The higher you go towards Level 4, it starts to cool down or they start to adapt to the course and they are now getting serious, as it is their last leg. My challenge is trying to understand them. When you lecture, it is not about giving information but also understanding the students, how they learn, why the students fail, and knowing how to help them.

There are seven subjects that a student should do to complete the course, which include Mathematics, English First Additional Language, Life skills and Computer literacy, Automotive Repairs, Applied Engineering, Fitting and Turning, and Boiler maker. They all have their various assessments types, but for the ERD vocational subjects that I am teaching there are five ICASS assessments excluding ISAT and final examination.

The assessments consist of practical work and theory part. Test 1 in March, then practical assignment 1, practical assignment 2 which is like a start-up of what is expected in ISAT, and another Test 2 around July. Then Trial examinations in September. The final examination is written in November by students who have acquired 50% for the continuous assessments in each subject that they are doing. So the two practical work assignments prepare the students for ISAT. All in all, there are seven subjects that fulfil the course.

The implementation of the ICASS tasks is quite challenging because there is shortage of time to prepare the students for ICASS and ISAT, because it is like they have just adapted to the course in Level 4. So there is much time needed for practical work.

Curriculum relevance

The thing that attracted me to lecturing was empowerment. I did not finish matric but when I decided to come back to school, people were encouraging me to come to a TVET college. So I saw lecturing as an opportunity to empower young people.

The programme meets its objective because most of the people I know who studied the NCV ERD are employed. The NCV programme's skills and knowledge outcome match the industry requirements. I once worked as a boiler maker for a while after completing my N6. A lot of tools and machines that we have here at the college, we had them there at my workplace.

I cannot say there is a part of the curriculum that is irrelevant. However, when we look at Life Skills and Computer Literacy, that subject is part of the programme, but it does not have impact on the student career choice, because we do teach students vocational subjects that also includes health, rules and safety in the workplace. Nonetheless, the programme has all the components that can equip a student to be ready for work.

To ensure responsiveness of the ERD programme, I think updating the equipment that we are using in the workshop, making them match what is currently happening in the industry, is important. Technology in terms of machinery is developing every day in the industry, so if we

can go in that pace as programme lecturers we can make it responsive to industry and the community.

It could improve the NCV ERD L4 programme to increase the time allocation for practical work and that can help in motivating the students, because it is what they understand more than theory.

Most graduates find employment. I am one of them. I am an ERD lecturer now. I was doing ERD here at the college. After completing NQF Level 4, I went on to do N3, N4, and N5. Then I went to Mangosuthu University of Technology to do Mechanical Engineering and as I said my friend is working now as a boiler maker. He got a job two weeks after the completion of the NCV programme.

Maybe if they can add something like a bridging course that will include Pure Maths for these students because they find hard to adapt to the nature of the course. The NCV ERD programme is a good programme. But I can say for, example, Automotive Repairs, I can say there is a need for updating our curriculum because different cars are introduced each year. So we need to be aligned with the motor manufacturer industry.

To ensure effective teaching and learning, I think the college could support us with enough updated equipment, also arrange workshops for us on how to operate those equipment or machines. If we can be taken to the industry as lecturers and get exposure and understand what exactly is currently happening in the various industries. Give students something to see, meaning allow more time for practical work as it is stipulated in the curriculum - the 70% practical and 30% theory. That can make teaching and learning effective.

I am a new lecturer. I have not heard of subject advisors or curriculum coordinators. I have never been to any workshop so far since 2017 when I joined the college. I normally enquire from my seniors here in the college if I face a challenge in the subject like Boiler maker, especially when I need resources.

The students are not motivated because of the issue that they do not understand the programme and that they do not have Pure Maths. They have found something different from what they thought. For example, in high school they had a problem with understanding theory subjects, and they are now caught in the same problem of too much theory even here at the TVET College.

My lecturing experience has been a great experience. It needs your concentration as a lecturer. A lot of reading in preparation for the lesson. Even when I was a student it required me to leave a lot of things so as to concentrate on my studies.

Considering my lecturing experience, I can say it is a programme with less enrolment numbers as compared to the rest of the other programmes. The programme always has spaces for enrolment, so students enrol for it without a clear understanding of it. Students enrol for the programme for the sake of enrolling, not understanding what they enrol for. They fear staying at home. Also, the lack of career guidance has an impact on these students dropping out and enrolling for courses they do not understand. Then they see its difficulty with the passage of time. Then they lack motivation because they do not understand the nature of the programme. It could help if we can we can take them to industries to get exposure.

The students' attitude towards the programme can be a problem. If they see it is difficult, then they think they would not make it. I think there should be a selection test before enrolling for the course, because we do not have a bridging course for NCV programme.

Like I said before about time allocation, we cannot expect a Grade 9 or 10 student to understand Pure Maths within a year and pass. The student had a problem with theory from high school, then there is no miracle that these students can do to quickly adapt to the programme and pass to the next level. Obviously at Level 4 there would be a low throughput rate.

The attendance of students is average in Level 4. In my register I have students who just enrolled and left. Some attended one month and left. But the overall attendance in the first and second terms can be 50%. After June, they hardly attend, only appearing when it is time for assessments. That results in the poor performance of most students.

The programme meets the needs of the students because it has all the facilities to empower the youth. If the youth are empowered, the community also benefits in that the young people will be the ones to develop the community through starting new businesses.

Improving the relevance NCV Engineering and Related Design programme

My perception of the programme is that it helps students develop their technical skills. To add, I think we need to have a chain of communication from high school curriculum coordinators on the subjects we need as TVET College Engineering programmes to ensure

that the subjects match our requirements. The course can be marketed more and understood by learners. Also communication from the college to the industry to ensure that we are also aware of the industry expectations of our students.

The college is actually doing student development. They are implementing tutors. They normally meet after 3pm. So if the student did not understand me during my session, they will understand her peer.

5.3.3 Student who successfully completed S11

I am a self-employed welder. I have my own clients that normally contact me in case they need my services. I am mobile. I bought a huge yard that can accommodate my business. I needed a huge space because I am designing big things. I do burglar doors, gates and windows. I also attend to small things like kids' bicycles, so parents call me for that too.

Curriculum purpose and objectives

The purpose of TVET College is to offer skills to young people for them to be employable. The purpose of the NCV curriculum on the other hand was to accommodate learners from Grade 9 that need practical knowledge and skills. I was attracted to NCV ERD because I was told it has a lot of job opportunities upon completion of the course, and indeed it does because now I am working as a welder. I have my own station where I do burglar doors, gates, and windows. I am also available for fixing small things like children's bicycles.

I think the thing that I can regard as a challenge is the numerous strikes that normally occurs at the college. The strikes were normally for NSFAS.

The programme met its objectives because it was able to make me start my own small business, and other students who completed before me are employed. I had acquired the skills and knowledge that it aimed for. Most of the equipment and tools that I was exposed to at the workshop of the college I am still using, and some are different in that they are now updated, but they are similar. So I still found what I learnt in the field. So it is now a matter of knowledge application and gaining more information.

Content and subject matter

I can say that the content helped me in that I was able to start my small business and I hope that it will grow. I will always be an entrepreneur. I believe that if you have a skill, better use it for your own benefit than working for someone else.

I can concur that the programme matched what we were taught. At the college we were taught the introduction of what to expect in the workplace, at work we do much of the theory part that we were not able to do at the college. Some content was taught but not assessed, but the information was important. Then you find that at work now you have to implement that information. Like now, the tools are developed and you lacked information on how to use or maintain. But I research if I come across such.

Some equipment, you can see that it is available at the workshop, but we are not taught about it, because it was not functioning currently. But then you tend to find it at work.

Methods and learning experience

The lecturers mostly used lecture and demonstration methods for the lecturing of the theory when we are in the class. There were tools that were movable and can be moved to our classrooms. Some lecturers were bringing those tools into class so that when they teach us about those, we can see them instantly, unlike waiting for the period of workshop practical. I would have forgotten by then.

Then when I am at the workshop for practical work, I can easily remember the name and function of the tool and how to handle it. I like demonstration method because it was hard to forget something that you saw and demonstrated how it worked, more than lecture method because I am not good at mastering notes. I am good in practical work. A lot of notes tend to confuse me. I cannot master them.

The most experience was when we were in the workshop, we were sharing or doing practical work in groups, because the tools and equipment were not enough to accommodate us all. So we were always sharing. Then my experiences as student was that I was always aiming to be group leader because I knew that if I was a group leader, obviously I was going to get the opportunity to be hands-on and maybe present the tasks if necessary. I was aiming to benefit by all possible means out of the lesson. That made me to be highly recognised as a student and opened other opportunities, like becoming SRC member. Because I also gained a skill of being vocal.

Assessments and evaluation

While I was a student, learning was assessed through tests and practical assignments. We had two tests, two assignments, trial examination and compulsory ISAT as part of our ICASS. Then the final examination, in November. Also, there were times where our lecturers will be observed by their seniors and we will be told to behave in class and asked questions (laughs) *during that period of their class visits. I think they (the seniors) were assessing if lecturers were attending classes, capable, and good in lecturing so that they identify areas of development.*

We had five assessments for ICASS for each level of the course. We did not have study breaks. However, the lecturers normally shared with us the schedule for assessment so that we can prepare ourselves. They normally explained to us what is expected. For practical assignments, we were given rubrics indicating the distribution of marks. So it was easy to pass practical assignment. The only challenge was that we were not allowed to go the workshop to practice. I think this was because when we go to the workshop we needed to be monitored, so our lecturer did not have that time because they also had our classes to lecture.

I can say the tests were fair because we were also given a scope of the tests. But my challenge was that I am not good in theory, so I tend to perform averagely. But I ensured that I pass my ISAT outstandingly because we were told that once you fail ISAT you would not progress, regardless of your good marks in the other subjects. But I think we could have performed well if there were study breaks.

I can say that the programme met its primary aim which was to provide young people with skills and practical knowledge and that is what is happening. I did acquire skills and practical knowledge and I have my own business. So I can say it does meet the needs of the students.

Also, the programme does meet the needs of the community because the programme has produced learned members (graduates) of the community who have the potential to change the community for the better. Education moulds a person, so these graduates are now disciplined members of the community. So these very same graduates give back to the community through provision of small businesses.

There is no part of the curriculum that I can regard as irrelevant because the fundamental subjects are also shaping the student holistically, because upon completing the course they

need English to apply for a job and they must be computer literate as we are living in the 4th industrial revolution era. Then the vocational subjects are for application of knowledge and skills in the workplace.

Improving the relevance of the NCV Engineering and Related Design programme

In my opinion the NCV ERD programme that is currently offered is up to standard. The industry is being developed timeously. Most industries understand that they are functioning in the 4th Industrial era, therefore, they bought relevant equipment and tools to improve their efficiency and effectiveness. But our colleges are not moving towards the current technology which make me to say that their employability is not guaranteed.

TVET colleges need to be abreast with such developments, even with teaching and learning processes - adapting to hybrid learning. We should be seeing TVET colleges having electronic cars in their workshops for practical work. The graduates are not competent technologically while the industry is abreast with technology.

They need to allow students to have academic tours to industry once a year for each level. In as much as they are doing practical work in their various colleges, they still need to go the field and observe what is done there and relate that to what they are currently doing at the college, and be able to recognise equipment and tools as well as the processes done there.

I think the exposure to the industry could help to motivate students. It is demotivating to be stuck in the college, be told that one day you will work as something, but you have never been exposed to that scenario. Buy or update the equipment and tools in the campus workshop to match those in the industry. Also take the lecturers to the workshops in case there is a change in the industry. The college must develop the lecturers so that they can also stay relevant to the world or industry. Take students to working sites to see what to expect upon completing the course.

I am also aware of the changes occurring at the campus currently - that at UMgungundlovu College, the Level 4 students can go to the respective industry for a week to observe what exactly is happening there. That is a good move.

5.3.4 Student who successfully completed N12

I completed my studies at UMgungundlovu TVET College in 2021. I was doing Fitting and Turning.

Curriculum purpose and Objectives

I am of the opinion that the TVET colleges are a source of skills. It acts as a bridging course for those who want to further studies in the ERD field. I opted to study ERD because the course seemed informative to me in terms of the introduction into the field of ERD because it gives one an insight into the course. I can put it very clearly that the course really met my expectation in that whatever I expected to learn and achieve in terms of academic merit, I did achieve that. The knowledge that I acquired was enough for me.

The challenge that I experienced was when I failed Mathematics in Level 2, but then I wrote supplementary examination and passed. Since then I took my studies seriously. I never thought of deregistering because my ultimate goal was to acquire my certificate and Diploma in ERD.

I can say the programme meets its objectives because I am able to perform mechanical activities at my level that actually matches the standard of the skills and knowledge acquired. There is a relationship between the qualification and the course because I am able to understand the basic content of ERD and can perform basic tasks out there in the field.

Content and subject matter

The content of the programme contains the basics of the course which helps one to understand the concepts or tasks that are required from a person in the field of mechanical engineering. It provided just the basic understanding. I can be an artisan or mechanical fitter maybe in future.

The programme skills and knowledge gave me an insight of the calibre of the worker that a mechanical engineer should be like. It taught me how to use hand tools, how to plan my work, how to work safely and to work efficiently.

Methods and learning experience

The learning methods were a combination of when the lecturer will quote from the book, practical and demonstration on how it is done in the field. I liked the demonstration and practical method. The lecture method used to bore me. (Laughed). I only liked practical work while I was at the college.

Assessments and evaluation

I was assessed though written tests, written assignments and practical assignments. Well I would say the methods were quite relevant in a way that it was testing the understanding of concepts, and ability to perform tasks through practical work.

The programme meets its objective though there is still more to learn because ERD is broad, it cannot offer all at once since NCV is a lower level. The programme also meets the needs of the community because there are diverse levels in the field of ERD. I mean there are those who will work with qualified mechanical artisans as assistants and then there are artisans, then there are technicians, after those will be engineers, so I would say it does help the community and economy of the country in that it gives everyone a chance to find himself where he belongs in the hierarchy of the field of engineering. Hence, I do not think there any part that is irrelevant because all the contents are to shape one in the field of engineering.

Improving the relevance of the NCV Engineering and Related Design programme

This is a great programme in that it gives a chance even to someone who do not have Matric to get skills and find work in the field of mechanical engineering. However, I think the time allocated for practical work is limited. We need more time hence TVET College needs to sponsor practical skills so as to ensure that these graduates are fit for world of employment.

To improve relevance, the college can create relationships with the companies that can offer work to the graduates of mechanical engineering. Also, they need have an introduction of basic technical drawing course for students of mechanical engineering because if you are to disassembly a machine part, assembling it back sometimes you need a drawing that will guide you which part to put where, but if you cannot read a drawing it is hard.

5.3.5 Current student S05

I enrolled for ERD at the college in 2021. I am definitely finishing this year as an Automotive Repair student, in 2023.

Curriculum purpose

The purpose of the TVET College is that the NCV has practical work and we do things that are done outside in the workplace, we have workshops, unlike in the other higher institutions where they provide less practical work. So it is to give students workplace practical work and

theory. The curriculum indicates what to expect in the workplace. According to the NCV curriculum, there should be 70% workshop and 30% theory.

Curriculum relevance

Studying Engineering was my dream. I wanted to enrol for NATED, to study Automotive Repairs, but I did not qualify because I did not have Pure Maths. So, I opted for NCV ERD because I qualified to enrol with my Grade 9 school report. I opted for NCV ERD Automotive because I love repairing cars.

My view on the NCV ERD programme is that the practical part is not enough, because in reality we should be getting 70% workshop experience and 30% theory, but it is not like that. We do not attend for workshop practical work the most. It is like the 30% is for practical work. It is vice versa. The aim of enrolling for NCV ERD was that it has much practical work, so I thought I would gain more practical experience in Automotive Repairs. I am good in practical things, NCV ERD was a good choice.

If the issue of less time for practical work can be corrected, the programme could be more interesting. I could enjoy doing it because core subjects like trades (Automotive repairs) does not need us to be in a classroom, but in the workshops, standing, touching tools and equipment; learning about equipment in front of us, not having long theory classes rather than practical work. Trade subjects do not need a classroom.

I can say that the programme does not fully meet its objectives because of the inadequate time for practical work. However, it is a good programme because we have practical work where we get to experience what we will encounter at our various workplaces. So, for the programme to fully meet its objectives, it needs to review the issue of time allocation, especially for practical work. I remember that time when we missed a practical lesson for dismantling a car engine. The only problem was that my lecturer kept on postponing it, indicating that we need more time for that practical and we ended up not doing it because of lack of time. I came to the TVET College because of these practical tasks, so if I'm lacking them, it is a challenge for me. I am not good in theory.

The thing that keeps me motivated as a student is that it is my dream course. I am gaining the workshop experience that I aimed for, though it is inadequate. I will get much of the workshop experience in the industry. With theory, I am a trying to grasp much knowledge. Regardless, there was not a time that I considered deregistering. I have been persistent.

The content of the NCV ERD programme is preparing me for industry after completing this course, looking at the trade subjects I am currently doing, because I want to work as a professional Automotive Engineer. I wish to further my studies until I reach a stage where I can be in a position to design my own car.

The programme has taught the safety measures in the workshop and the basics of car repairing. I can say the skill and knowledge that I have already acquired match what I understand about the workplace.

The programme does meet my needs, but not 100%; as I have said before it is lacking more time for practical tasks. I am a hands-on kind of a person more than theorising things. I would be better if most of the time we are in the workshop, that is what I like the most, more than being in the classroom and learning theory. Because it happens that you do not even understand the theory itself, but then understand better when you in the workshop.

The programme meets the needs of the community because the place is developing and people are buying cars and I as a member of the community can start my own motor repairs in future. There are also students who are car repairers part-time.

The challenge that I am experiencing in the course is with the examination timetable. It normally has the challenging subjects together. It is challenging to write Mathematics paper 1 today and paper 2 the next day, it is draining. I suggest that they shuffle difficult subjects with less difficult ones.

There is no part of the curriculum that can be regarded as irrelevant - even Life Skills and Computer Literacy subjects are needed as part of the curriculum, because these equip us for the workplace. In English we are learning about CV writing, and job application letters and in Life Skills and Computer Literacy we are learning about introduction to computer. That knowledge is required in this world of technology to type our documents, to name but a few. These subjects are different from those we learnt at high school.

Improving the relevance of the NCV Engineering and Related Design programme

I can say that NCV ERD is a good programme, as one can enrol using Grade 9 school report, you do not need to wait until you finish Matric, and it does not hinder one who failed matric from enrolling for Engineering. The curriculum does not hinder one who failed Matric from enrolling for engineering, though it is quite challenging and you have to be ambitious.

The only area of development in the NCV ERD programme would be on the advanced technology in the cars we use in our workshop on the campus. In our workshop, we do not have cars with the current technology, like electric cars, that are in the industry. We are still taught about combustion engine even now in the workshop. We need more introduction to electric cars. Sometimes we learnt about other equipment and machines in the book, only to find that they are not in our workshop. If the college can have adequate workshop equipment and tools, that would help us a great deal.

For further developments of the NCV programme, I can suggest that the college provide us with more equipment and tools so that it can accommodate us all in all the practical work we do, and not mean that we need to do them in groups, because one may end up not having the opportunity to touch the equipment or gain any information about the activity. There are no developments I can suggest for the lecturing staff, development in terms of the teaching and learning - lecturers are good.

I think it would be good if I can be exposed to an interview situation while I am still studying, so that I know what to expect in an interview. We are taught how to apply for a job and how to complete Z83, but not about interviews. The vocational subjects have equipped me well with skills and practical knowledge. Our lecturers have even told us our relevant trade unions for Engineers.

5.3.6 Current student M02

I enrolled at UMgungundlovu TVET College in 2021, for ERD Level 2. I am currently doing my final year as a Boiler maker student and I am sure I am finishing this year, 2023. After completing the NCV programme I am aiming to continue to NATED programme ERD, and then go to the university to do a degree.

Curriculum purpose

The TVET College greatly assists students who needs more practical experience, unlike NATED programme and Universities. TVET colleges provide more practical experience together with theory and there are workshops where we do our practical work and get exposed to the tools and equipment that are at the workplace.

The purpose of NCV ERD is to give us experiences on the use of the tools and equipment in the workshop. It also teaches us about safety in the workshop so that we will not struggle in the workplace.

Curriculum relevance

I failed matric so I decided to do ERD because it had spaces for enrolment at that time. I did not want to repeat Grade 12 or stay at home. My friends were all in tertiary education, so I went to register at the TVET College. At first, I did not understand the NCV programme. It took me the whole first year to adapt to the programme and understand what I was doing. I was told that NCV ERD has a lot of work opportunities.

The programme meets my expectation because I do go for workshop practical work and am exposed to workplace expectations. As I said before, I was told that there are work opportunities upon completing the course - I can see some students are now working.

I think the NCV ERD lost its direction at the beginning, because it was meant to have 70% practical and 30% theory. But now the opposite is happening. We do not use workshops for practical work the most. If it happens that we go for workshop practical, we are many while the equipment and tools are few. And we have to work in groups and end up not touching the equipment. You cannot be sure if you have acquired the skill that was aimed for in that lesson because you did not touch the tool or equipment in the group.

It motivates me to see former students coming to the college to share with us what they are currently doing, and the lecturers themselves keep on motivating us, saying that there are other students who did the programme and are working now.

As mentioned before, the contents of the programme consists of theory and practical work. In in the theory part, we are learning theory, we are told how to behave as engineers and the safety precautions in the workshops and at work; and the workshop part is shaping me for the world of work.

The programme meets my needs. I learn well through touching or practical things. So ERD Fabrication is good for me. I have been exposed to the workshop equipment and tools that are in the workplace, and I am aware of what to expect at work. Though we are normally sharing equipment and tools, I have grasped and I have mastered skills that are relevant to my workplace. I will even start my own business with the skills I have acquired.

The programme is relevant to the community, because the place is developing and people are owning cars which will require repairing and their houses will need security guards. So as students, we will be of help to the community. Also, there could be job opportunities that can emerge.

The part of the curriculum that I regard as irrelevant is the practical part of the programme, because we are still taught with old tools and equipment in the workshop. That makes it irrelevant.

I was doing Fabrication which includes boiler making and welding, so I stand to have a lot of opportunities with the knowledge and skills I have acquired as a boiler maker or welder. I am aiming to start my own business as a welder in my community. I reside at Imbali location, which is developing, therefore my welding services are a necessity for security gates, burglar bars and other steel designs.

Improving the relevance of the NCV Engineering and Related Design programme

I can say that this is a good programme, because upon completing the course students get employed. However, the programme needs some developments in workshop tools and equipment. Some of these tools and equipment are outdated and some need to be timeously serviced. If we can get updated tools and equipment and service equipment that needs servicing, then all would be fine with the course. Some old tools and equipment have been kept there in the workshop and we do not know their function - we do not use them.

I would suggest that the college buy more tools and equipment that is current, that matches the industry, so as to develop the programme. This would also prevent us from working in groups during class activities. Also, having two workshops would help a lot. I can put it very clearly that our lecturers are good in lecturing, and they guide us well, so they do not need development.

The challenge I faced about the course is that it has a lot of work. Also, the fact that I would not sit for examinations if I fail ISAT and if my ICASS mark is less than 50%. I also feel like the duration of the lessons is short, especially with the practical part. The 45 minutes is not enough for practical work. If practical work could be two hours and theory be one hour that would work for me, because we are sharing the tools and equipment. So given the two hours other students would have the opportunity to use the tools or work with the equipment. Another challenge that I can point out is the examination timetable - we are writing every day, and sometimes difficult subjects one after another. Hence, as I said before, it is a difficult programme. I would be glad if workshops can be given a longer timer than the theory, because we need more time for the workshop practical work that is where we need to invest in.

In conclusion, since I am now doing my final year in the programme, it would help me to be provided with links for possible companies that might employ me, because we are not placed at workplaces upon completion the course. I came to the TVET College with the hope that they were having work placements, only to discover that I must hunt for a job myself. But I am glad now because the college has started a WIL programme this year, 2023, where we go to the industry for exposure for a week and this will assist the students in building relationships with companies, and maybe one student would be lucky to be offered a job opportunity upon completing the course.

5.3.7 Student who did not complete D03

I registered at UMgungundlovu in 2018, to do NCV ERD Level 2 with the aim of becoming a welder. However, things did not work out, and I happened to drop out in 2019 October, because I found a job at a call centre - something far different from what I studied.

Curriculum purpose

I think the purpose of the TVET College is to offer skills and practical knowledge and accommodate dropouts from high school to study at a TVET College. The purpose of the NCV ERD programme is to enable young people who dropped out of school to enrol at a college and continue [their studies] so as to have a certificate that is equivalent to matric.

Curriculum relevance

I opted for NCV ERD because I was facing challenges at my high school so dropped out at Grade 10. I came here to the college because my parents said it was better at the college because I would also get a job when I finished studying and my certificate will not be like that one of matric, it will have a job-related skill. So, I enrolled for ERD Level 2 using my Grade 10 school report.

However, I did not finish college (laughs) *because the course was difficult as compared to my previous high school. To me it was more like I am still in high school, because the practical part that I was promised was done the least, and we were doing them after some time, so that I had forgotten what the theory part was all about. So to me it was more difficult than school work. As a result, I dropped out because I was not competent.*

The challenge was that the curriculum at the TVET College was difficult. I thought we were going to do practical work, not the lots and lots of theory, more than practical work.

I think it would be better if the lecturers teach practical and theory same time, like maybe learning the theory part at the workshop, seeing the tools and equipment for easier reference. Learning about something you can see would be better for me, unlike waiting for time to go to the workshop and see those tools. I think that was my challenge, because I easily forget. As a result, I was underperforming and NSFAS was not going to fund me the following year, 2020. Then I dropped out because I would not have money to fund my fees for the three subjects I failed. I then tried my luck at a call centre.

I can advise a student who wants to enrol for NCV ERD programme, I can say that it is a good programme, but you must be prepared when you are studying it because to me it was difficult because the practical work I was promised was done the least, so it was more like high school work but more difficult now at the college.

Therefore, I can put it very clearly that the course did not meet my expectations. It was like I am still at the high school. It was difficult for me. I have three subjects outstanding, which are Mathematics Level 2, Applied engineering Level 3 and Boiler maker. I have been supplementing and reregistering this Mathematics Level 2 subject, but I never made it. It is still difficult. I can say that the programme did not help me in preparing for work, because I ended up dropping out. However, I can say that the programme meets the needs of the community, because looking at the Imbali location, it is developing. A lot of houses are built that needs burglar doors and gates, and one can start his business and employ community members. So the community can benefit from graduates of this programme. I cannot be sure as to which part of the curriculum is relevant.

Improving the relevance of the NCV Engineering and Related Design programme

I can say that the programme needs to have a bridging course for us, especially those who are from high school, so that we can be used to the NCV ERD programme, because it is difficult. I would be glad if the programme could be four years. It would be better for the college to maybe take us to the field maybe once, so that we can be motivated and that can differentiate the high school curriculum from the college one. I could have continued studying if there was an exposure to the field.

5.3.8 Student who did not complete G05

I enrolled at UMgungundlovu TVET College in 2020 for Automotive repair, but I happened to drop out in 2021 September, to focus on my father's motor repair workshop that he had in the back yard. So, I am using similar equipment and tools that I normally used in the college.

Curriculum purpose

TVET Colleges are formed as a source of skills necessary for the workplace. The purpose of the NCV curriculum is to offer skills and practical knowledge for a period of time.

Curriculum relevance

I opted for automotive repair because my father has a motor repair shop. So I went to the college to acquire skills in motor repairing and that I can be certified for job security. However, I did not complete the course because I was underperforming. I was not interested in the fundamental subjects. I also lost control of the whole course because it had more theory than practical work. I do not like theory, I prefer hands-on tasks. I learn well through touching. I master well when I touch.

The challenge that I faced was that of the fundamental subjects. They affected my progress. I was failing them because I was not interested in them, but rather the vocational subjects, and it affected my performance on the course. Then I can boldly say that the programme did not meet my expectations. I was expecting to gain practical knowledge, only to find that there is a lot of theory learnt that is even affecting my progress with the course.

The programme meets its objectives because it gives students skills in the college. So I think it does from this perspective; however, the programme did not really help me because I did not find the practical work that I was expecting, so I went home with knowledge my father gave me on a daily basis at the workshop.

The programme did not meet my needs because I wanted to be developed in the skill part, only to find that it goes with a lot of theory and less practical. The lot of theory that was learnt made me underperform at the college. I was doing seven subjects, which included three fundamental and four vocational subjects. I was doing well only in the vocational subjects, because I was doing what I like and came here to do. But I was underperforming in the fundamental subjects because I was not interested in those, and that affected my overall

performance in the course and I ended dropping out, because I kept on failing them. If the student wants to acquire skills, then he will focus only on the skills part.

The programme meets the needs of the community, considering the fact that most people in my community have cars that need to be repaired timeously. I regard the fundamental subjects as irrelevant, because I wanted the practical and theory part of the vocational subjects, get my certificate, then be done and go assist in my father's workshop.

Improving the relevance of the NCV Engineering and Related Design programme

I can say it is a good course, because you can also use the little information you obtained to find employment, like assisting in motor mechanics. Because I enrolled at a TVET college to get a certificate, I have background knowledge or skill on motor repairing and I just wanted the certificate at the TVET College to secure my job. My father taught me how to repair cars, he has a motor repairing shop so I learnt most of the stuff from the workshop.

The programme can be developed by updating the equipment in the workshop to match those that are already in the industry. Some equipment in the workshop is old and not serviced. That makes me doubt the course, if we are being taught relevant stuff.

Also, we should have tutors for the course, because some of us, like myself, I am not a quick learner, especially when it comes to theory. I sometimes needed more clarity and lectures are short, so having tutors would help because you can ask questions of them, unlike to the lecturers because you can be shy.

I also think there is a need for the curriculum designers to relook at the course to consider that some students come to the college only for skills so to serve in family business, so they do no need the fundamental subjects, only the skill and the certificate. These fundamental subjects make us fail and lose motivation, they are a lot of theory and that affects our performance. You find that I pass the practical work well, but fail these fundamentals and am then considered unfit for the course. There is a lot that needs to be covered in a short space of a year, and I did not understand much.

If the college could once in a while take us to industries so that we can observe what is being done there, we would be motivated as students who are studying mechanical engineering. If we could be taught practical work and theory simultaneously, because sometimes we do practical work after we have forgotten about what we were taught in the theory session, and then fail.

5.4 Conclusion

In this chapter, I presented the data generated as part of my study. In the next chapter, I analyse this data, and interpret it in relation to my literature review and conceptual framework. The following chapter discusses the data analysis.

Chapter 6: Analysis and discussion

6.1 Introduction

The previous chapter presented the data generated through my study to answer my research questions. This chapter presents an analysis of the generated data. The purpose of this study was to explore the perceptions of students and lecturers at the Plessislaer campus of the UMgungundlovu TVET College of the relevance of the Engineering and Related Design NCV Level 4 curriculum. In this study, I used inductive thematic content analysis to analyse the semi-structured interviews and the documents; and then deductive analysis using the key concepts. Below, I present my analysis, using the broad conceptual framework of curriculum as intended (that is, the specified curriculum, with emphases on the plan and product), and curriculum as enacted (what really occurs, the process emphasis) as my organising principle.

6.2 Curriculum as intended

As discussed in Chapter 3, the intended curriculum relates to the formal curriculum, which is prepared in advance, and should take into account the characteristics of the curriculum recipients, the educational principles and objectives, the evaluation procedures, the available resources, the environment, and the teaching methodologies (Chopping et al., 2022). Akala (2021) identifies the intended curriculum as the policy documents, curriculum standards, frameworks, and guidelines that specify what teachers are expected to deliver in the classroom. These state documents shape the curriculum of the programme and education as whole, and thus the curriculum ideologies. In exploring this, I thus used the policy documents, but also what the lecturers and students had to say about what they felt was the intention of the NCV curriculum more broadly, and the ERD Level 4 curriculum in particular; as well as anything else they said about the curriculum as intended.

6.2.1. The purpose of TVET Colleges and the NCV curriculum

TVET Colleges were established to rectify previous flaws of the FET College system in 2012. The NCV curriculum was established by the Department of Education in 2007 as a new comprehensive curriculum, which was structured from Level 2 to Level 4 on the National Qualifications Framework (NQF) (DHET, 2012). The NCV ERD course provides for a wide

range of skills and career opportunities for students who would like to become qualified artisans within the mechanical engineering sector.

The study identified three key purposes of TVET colleges: skills provision, exposure to industrial experience, and the opportunities TVET create for students to study further.

Skills provision

A key intended curriculum document is the *Further Education and Training College Act 2006* (p. 8) which stated the significance of the NCV curriculum as that it provides students with skills and knowledge necessary for the world of work, enables students to apply for vocational and occupational trades, and enables them to continue with their studies to the higher education institutions. The *White Paper for Post-School Education and Training* (2013, p. 11) also emphasised that 'the main significance of post-school education is to enable individuals to make a living for themselves and prepare workers for the labour market' and proposes increasing access to TVET colleges as part of addressing the problem of high numbers of youth unemployment. However, the *White Paper* imagined a broader objective. It states that the intention of this document was to build an 'expanded, effective and integrated post-school education and training system', (p.4) responsive to the needs of the myriad developmental challenges the country faces.

The *Teaching and Learning Plan* (DHET, 2023) acknowledges that colleges should also be a community where the accumulated knowledge of culture is transmitted to the youth. It thus also puts some focus on the broader needs of society, thus aligning with Schiro's (2012) social efficiency ideology as discussed in Chapter 3.

According to Schiro, the social efficiency ideology posits that the purpose of education should be to promote cultural competence so that once they have graduated, students will be able to play their roles in society effectively (Munir, 2022; Schiro, 2012). The aim of this ideology is to equip students with skills and techniques required in the work place as well as at home for them to live fulfilling lives and make contributions to the social and economic well-being of society. The emphasise in this ideology is on students' needs on acquiring skills so that they can fit in with society and improve economy of the country through revisionism, instrumentalism, and economic regeneration through education.

In this study, the participants were asked what they think informs the provision of the NCV curriculum (including what they saw as the broader role of TVET Colleges):

> **Lecturer N05:** *The purpose of the TVET College, in general, is to promote skills of the students and the community. It is more about skills. Therefore, the purpose of NCV curriculum of ERD is to promote the wealth of the country by training students in order to be more employable around South Africa.*
>
> **Lecturer K12***: The purpose of the TVET College is to upskill young people and in most cases is to get artisans.*

It is thus clear that the lecturers also see the purpose of vocational education and training as preparing young people for the world of work as indicated the in *FET Act of 2006*. Students are exposed to various technologies around them, the science behind the invention, repairing, manufacturing, and design of particular instruments, objects, and equipment, and their implementation and functions in TVET Colleges as part of the skills that are work-related offered in the NCV programmes in the college. As discussed in Chapter 1, this aligns with the UNESCO-UNEVOC (2019) definition of TVET. Students in TVET Colleges are taught skills that will enhance the economy of SA. Therefore, lecturers, as the implementers of the NCV curriculum must ensure that the students are equipped with the relevant work-related skills and provisions for employment or provide career guidance services for these students to ensure that they land to the land of employment – and this is clearly reflected in what the lecturers in this study said.

One of the students who have completed the ERD Level 4 course had a similar view with the lecturers:

> **Student who successfully completed S11:** *The purpose of TVET College is to offer skills to young people for them to be employable and to accommodate learners from Grade 9 that need practical knowledge and skills.*

The above student (S11), had a similar view with that of the lecturers, though he might be speaking through experience, because he is indeed working after completing the course. However, he also identified another point - that the TVET Colleges target school-leavers. This is in keeping with some of the literature discussed in Chapter 2, which suggest that TVET targets school-leavers and possibly unemployed people, who have previously shown that they are possibly not interested in using their education-related talents or are unable to benefit from formal academic educational programmes (De Wee, 2024; Mancotywa, 2023; Kapolo, 2023), encouraging them to try their success in TVET colleges. In South Africa, as

discussed, the entry requirement for TVET enrolment is a Grade 9 pass with Mathematics and Physical Science at 50%.

It can be noted that the establishment of the TVET Colleges was to mitigate the school dropout rate. For this to be accomplished, TVETs in collaboration with DHET need to have corrective measures to enhance TVET competitiveness (Khambule, 2019). The research conducted by Mabunda and Frick (2020) makes clear the different perspectives and expectations that TVET College students have when they enrol in TVET Colleges, which includes the impression of employment and high salary upon completing the course. It has been highlighted by Mabunda and Frick that if students' expectations are not met, they tend to under-perform in their studies, ending up dropping out of the college. During the interviews, students were asked what attracted them to the NCV ERD programme:

> **Current student M02: …** *After completing the NCV programme I am aiming to continue to NATED programme ERD, and then go to the university to do a degree. … I was told that NCV ERD has a lot of work opportunities.*
>
> **Student who did not complete D03:** *… I came here to the college because my parents said it was better at the college because I would also get a job when I finished studying and my certificate will not be like that one of matric, it will have a job-related skill. So, I enrolled for ERD Level 2 using my Grade 10 school report.*
>
> **Student who did not complete G05:** *… I opted for automotive repair because my father has a motor repair shop. So I went to the college to acquire skills in motor repairing and that I can be certified for job security.*

As can be seen from the literature reviewed in Chapter 2, challenges experienced by TVET College graduates are similar globally. Based on the above perspectives of students, I can conclude that most of the students opted for the NCV ERD programme with the hope of being employable. This is in line with the *FET Act of 2006,* which also stated the NCV programme is meant to equip students with entrepreneurship skills and skills relevant for work-related occupations and trades. However, Alam et al. (2024) found that TVET graduates in Bangladesh lack the necessary skills for future employment, as evidenced by the 13.5% of participants who stated that they are unlikely to find employment with their skills, a percentage of 38.5% who stated that they were neutral on the issue of whether they would acquire jobs based on their skills, and only 9.5% of participants who considered they were highly employable.

Alam et al. (2024, p. 12) found that in Bangladesh the curriculum has not been sufficiently updated to reflect future employability, hence the 'unemployment rate is higher for TVET graduates than among general education graduates'. Consequently, few students are interested in vocational education since employment opportunities both domestically and internationally are limited. They recommended 'strengthening links to industry so as to provide work-related training for students' (p.17) in order to enhance career and academic progression prospects for TVET graduates. Generally, I can suggest that entrepreneurship and career guidance activities be done to enhance the NCV curriculum, as Muthumuni & Mokoena (2024) propose.

Exposure to industrial experience

The White Paper for Post-School Education and Training (DHET, 2013) highlights that its objective was responsiveness. The post-school education and training system is a centrally important institutional mechanism established by society and must be responsive to its needs. This includes responding to the needs of the economy and the labour market through imparting skills. The skills development system – including the SETAs, the NSF, the colleges and the universities – must remain keenly aware of the skills challenges facing our industrial, commercial and governmental institutions as well as those of individuals in need of skills development, especially the youth. The participants had the following to say concerning industrial experience.

The perspective of currently enrolled students was not different from those of students who successfully finished the course and the lecturers. Both of these students emphasised the practical nature of the intended curriculum as something which made the NCV so suited for equipping people for the workplace:

> **Current Student M02:** *The TVET College greatly assists students who needs more practical experience, unlike NATED programme and Universities. The purpose of NCV ERD is to give us experiences on the use of the tools and equipment in the workshop. It also teaches us about safety in the workshop so that we will not struggle in the workplace.*
>
> **Current student S05:** *The purpose of the TVET College is that the NCV has practical work and we do things that are done outside in the workplace, we have workshops, unlike in the other higher institutions where they provide less practical work. So it is to give students workplace practical work and theory. … The curriculum*

indicates what to expect in the workplace. According to the NCV curriculum, there should be 70% workshop and 30% theory.

The currently studying students thus felt that TVET College offers more experiential learning as compared to other higher institutions that offer similar programmes. This suggests that there is a need for collaboration of stakeholders to ensure success of WIL programmes that would better shape our graduates for the job market. Kolb's experiential learning cycle of 1984 entails a cycle of learning that comprises experience, followed by reflection, the creation of generalisations, and application of knowledge to practice. WIL has been used in a wide range of vocationally oriented educational settings, including engineering, business, and teacher preparation (Mesuwini & Mokoena, 2023).

One students who had not completed the course also emphasised the practical nature of the NCV curriculum:

> **Student who did not complete G05:** *The purpose of the NCV curriculum is to offer skills and practical knowledge for a period of time.*

It is clear that the student and the lecturers have the same view about the purpose of NCV curriculum, that is skills provision and acquiring of practical knowledge.

Opportunities for higher education

The FET Act 16 of 2006 states that the significance of the NCV programme is that it enables students to further their studies. The study found that this is something the participants value.

One of the lecturers indicated that he managed to further his studies upon completion of his NQF Level 4, NCV ERD.

> **Lecturer K12:** *…I was a student in this college doing ERD NCV in 2012. Then I studied further until I am here today. After completing my NCV ERD programme, I continued to the NATED programme, then to Mangosuthu University of Technology, still studying Mechanical Engineering. Being a lecturer, to me, is an inspiration to these young people that there is light at the end of the tunnel.*

One student who completed the course also highlighted that the NCV ERD programme can enable one to further studies at a higher education institution:

> **Student who successfully completed N12:** *I am of the opinion that the TVET colleges are a source of skills. It acts as a bridging course for those who want to further studies in the ERD field.*

The lecturer cited above showed that it is possible to further your studies to higher institutions as an NCV ERD graduate. Upon completing the NCV ERD course students can either opt for enrolling for N4 to N6 Mechanical engineering or with universities to get a degree. However, the NCV programme still needs to be recreated in a way that allows those students who see the need, and have the skills and the financial means, to progress to universities, since this remains a struggle. Gaffoor and Van der Bijl (2019) mentioned that TVET Colleges were established with the additional goal of expanding post-secondary opportunities, access, and advancement which includes training in skills, information, and attitudes needed in the world of work.

It should be noted, however, that one student who had not completed the NCV course spoke more about the role of the NCV curriculum to help young people complete school, rather than as a means of furthering studies:

> **Student who did not complete D03***: The purpose of the NCV ERD programme is to enable young people who dropped out of school to enrol at a college and continue [their studies] so as to have a certificate that is equivalent to matric.*

A TVET College admission requirement is a Grade 9 with a 50% pass in Mathematics and English language. The NCV Levels 2, 3, and 4 in TVET colleges correspond to roughly Grades 10, 11, and 12 in the formal school education sector (Du Plooy & Du Preez, 2022).

In a nutshell, the above views from both official government documents and most participants corroborate that the main rationale of the provision of the NCV curriculum is to up-skill South Africans in a way that they are competent in the world of employment, and thus the economy of the country is improved. Additionally, it enables TVETs graduates to continue with their studies in higher education. I can recommend that at local level, TVET colleges must create good relations and networks with local industry and business for closer and mutually beneficial relationships, for example, working with SETAs to create real work experience.

The study's findings concur with much of the literature as discussed in Chapter 2, regarding the purpose of TVET. For example, Frommberger's report *TVET in Africa: Status quo*

development and opportunities of continental cooperation, (2022) clearly stated that the intention of TVET on the continent of Africa is to minimise youth unemployment, to develop semi-skilled employees and create educational career opportunities for the youth.

6.2.2 The content, structure and assessment of the NCV curriculum

In this section, I focus on three aspects of the NCV curriculum as intended curriculum – the admission requirements and content covered; the syllabus structure; and the assessment regime.

ERD NCV content and admission requirements

As discussed in Chapter 2, the NCV curriculum was established by the Department of Education from 2007 as a new comprehensive curriculum across Level 2 to Level 4 on the National Qualifications Framework (NQF). It thus takes three years to complete.

One of the entry requirements to the NQF Level 2 Engineering and Related Design NCV programme is that students must have passed Grade 9 including Mathematics and Physical Science with 50%. Each level takes a full year of study and a student is required to take seven subjects for each level - three compulsory fundamental subjects, and four vocational subjects. The vocational subjects include Applied Engineering Technology; Engineering Processes; Professional Engineering Practice; Fitting & Turning or Automotive Repairs & Maintenance or Engineering Fabrication, and Welding, Boiler Making, Sheet-metal work *ICASS guidelines* document (DHET, 2023). One subject is chosen in Level 4, following the students' choice from Level 2. I can attest that the NCV programme structure is well organised judging from the curriculum documents used for teaching and learning and assessment, which includes the *Teaching and Learning Plan (2023), ICASS guidelines (2023*), *subject guidelines* and *assessment guidelines*. These are documents that govern teaching and learning and preparation of students for assessment, and are in line with the broader policy documents.

As discussed in Chapter 3, there are very different understandings of curriculum, which reflect three distinct emphases, namely, content, product, and process (Maia & Freire, 2023; Moore, 2012). The content emphasis clearly relates to curriculum as intended (Maia & Freire, (2023). The **content** emphasis is somewhat apparent in the NCV curriculum documents, in particular in the subject guidelines, which lay out the content to be covered in each subject at each level.

For example, the subject guidelines for Engineering Process Level 4, highlights the duration and tuition time (200 hours for teaching and learning), assessments (internal and external assessment and moderation), pass requirements, subject and learning outcomes to be covered, resource needs for the teaching the subject (human resources, and physical resources). It includes the specific topics to be covered:

Topic 1: Mechanical component service
Topic 2: Component dismantling and assembling
Topic 3: Operating and monitoring an engineering machine and component production
Topic 4: Powered machinery used in the cutting of materials
Topic 5 Component production using computer aided machining (CAM).
Topic 6 Joining processes are selected and applied in materials technology.

Put differently, this was a programme that was meant to rectify imbalances caused by Technical Colleges from the apartheid era, as discussed in Chapter 2. However, as discussed, its objectives were not well understood by the industry. They had doubts about the human capital produced by the programme. Their fear was mostly caused by the fact that they did not have a guarantee about its success and the fact that the implementers were not professionally developed or ready for the programme, the resources were inadequate and outdated and there was no strong alignment with the industry requirements. As a result, people lost faith in the TVET Colleges' ability to provide quality skills training the (Brand, 2021; Buthelezi, 2018; Mesuwini, et al. 2020; Ngidi, 2022).

In the study, the lecturers raised their views on the content of the course. They indicated that they encounter challenges when it comes to the Mathematics component. One of the lecturers commented:

> **Lecturer K12:** …*We have students from high school who still need to understand Pure Maths since they never did it in high school and they are not used even to the programme itself. It is not easy for them to adjust to this kind of learning (tertiary). The chances of that student continuing with the course are very slim.*

Sithole (2019), in a study entitled *Enhancing management structure at the TVET colleges: A case study of uMgungundlovu TVET College,* considers the views and experiences of lecturers as significant implementing agents of NCV curriculum in TVET Colleges. Sithole discovered that lecturers feel that they are not included in the NCV curriculum design. This concurs with what lecturers said in this study. They voiced that the NCV curriculum is a top-

down approach from DHET for them to implement, and they have challenges when implementing the programme. They have students that lack Pure Mathematics knowledge and much time is needed from the lecturers to 'take baby steps' with these students familiarising them with the programme, while they have a long syllabus ahead of them to finish within a duration of three years. As discussed in the review of literature, the urgency with which the government wanted the production of artisans is not compatible with the programme they designed to meet this demand (Powell, 2012; Powell & McGrath, 2014, Terblanche, 2017Asheena et., al 2020; Mesuwini et al., 2020). I can recommend that an entry requirement for ERD programme should be strictly Pure Mathematics to avoid challenges students encounter with the programme.

Syllabus structure

The NCV curriculum syllabus is seen as too long by lecturers since they encounter significant challenges in implementing it. As discussed above, the lecturers say this is particularly a problem because they need to nurse those learners who are doing ERD programme without Pure Maths, because they are struggling with Mathematic, whilst on the other hand they have a load of teaching and assessments to do. The ICASS guidelines indicates that the lecturer has five formative assessment opportunities in Vocational subjects and seven for Fundamental subjects to assess the students' knowledge and competencies during the academic year and therefore each task must be planned and administered with great care.

Mbanga and Mtembu (2020) highlight that TVET College lecturers have 34 weeks of contact time per year, four of which are dedicated to student registration at the start of the academic year. After the six annual ICASS, one week of ISAT testing, and one week of trial examinations, the colleges have only 22 weeks of actual teaching time, which is often not enough for the taught curriculum to be completed. This makes it impossible for the NCV curriculum to create artisans at the rate anticipated by the government. It also has an impact on the students because they underperform and end up dropping out of college.

Therefore, the duration of the NCV programme must be reviewed. The old and current NCV curricula must work together to preserve continuity, because understanding the past helps us understand the present curriculum.

It should also be noted that one student who did not complete the course felt that the content needed to be changed:

> **Student who did not complete G05**: *I think there is a need for the curriculum designers to relook at the course to consider that some students come to the college only for skills so to serve in family business, so they do not need the fundamental subjects, only the skill and the certificate. These fundamental subjects make us fail and lose motivation, they are a lot of theory and that affects our performance.*

This student who did not finish the course sees no importance in the fundamentals subjects (which includes the Pure Mathematics), only the vocational subjects matters to the student. This student had acquired informal vocational skills at home so the NCV course was to boost him with certification. The student thus considers fundamental subjects as one of the factors leading to student underperforming in their studies. Classes in the college are comprised of students with mixed ability. Some are good in vocational subjects and some are good in fundamental subjects; some might have finished Grade 12 while some only finished Grade 9. This mixture of ability in classrooms can demotivate students and make it hard for the students to continue with the course (and, as discussed above, make it hard for lecturers to get through the syllabus). The subject mix in secondary schools needs to be reviewed to match programmes in TVET Colleges. There is a gap between secondary school streams and NCV programmes offered at TEVT Colleges that can be closed by a bridging course (NQF Level 1) (Huerta et al (2023).

The students who have successfully completed the course seemed to be content with the content of the NCV curriculum as they mentioned that they had business opportunities and were hoping for future career advancement. They commented on the content structure of the NCV curriculum as follows:

> **Student who successfully completed N12:** *The content of the programme contains the basics of the course which helps one to understand the concepts or tasks that are required from a person in the field of mechanical engineering. It provided just the basic understanding. I can be an artisan or mechanical fitter maybe in future.*

> **Student who successfully completed S11:** *I can say that the content helped me in that I was able to start my small business and I hope that it will grow. I will always be an entrepreneur. I believe that if you have a skill, better use it for your own benefit than working for someone else.*

In contrast to the **content** approach, the **product** emphasis in curriculum focuses on what the intended learners can do after completing the curriculum (Maia & Freire, 2023; Moore, 2012). The product emphasis is clearly evident in the outcomes of the subject guidelines, and in the emphasis on assessment in the programme as a whole.

NCV ERD standardised assessment

As stipulated in the TLP (DHET, 2023), students need to do both continuous and summative assessment tasks. Continuous assessment is laid out in the Internal Continuous Assessment (ICASS) guidelines. When continuous assessments are finished for the year, students complete the Integrated Summative Assessment Task (ISAT). These assessments evaluate students' abilities, knowledge, attitudes, and values.

The ICASS guidelines state that each subject head is required to draw up a plan indicating the lecturers responsible for setting and moderating assessment tasks and tools for the academic year for each subject at all NCV levels. Once the subject Year Plan or Work scheme (which provides details in respect of the sequence and pace in which the subject content is to be taught) has been developed, each subject committee at a college or campus must compile an assessment plan. This plan must be submitted to the academic head of the college for approval prior to the commencement of teaching and learning in an academic year. The management team at a college will use these assessment plans to monitor and verify the conduct of ICASS. Practically, lecturers of the college from different campuses meet at the beginning of the year to formulate assessment plans and select who is to set which task or assessment (there are seven tasks for ERD Level 4). The plans are submitted to the academic head for approval before classes commences. They are guided by the assessment guidelines of the subject. The TLP (DHET, 2023), on the other hand, guides colleges on how to ensure that the assessments are fair, standardised and administered and conducted with integrity and according to the prescribed guidelines and examination policies.

The emphasis on assessment is very evident in the curriculum documents, but also in what the participants had to say, and in particular the lecturers:

> **Lecturer K12:** *The assessments consist of practical work and theory part…Test 1 in March, then practical assignment 1, practical assignment 2 which is like a start-up of what is expected in ISAT, and another Test 2 around July. Then trial examinations in September. The final examination is written in November by students who have acquired 50% of the continuous assessments in each subject that they were doing.*

Lecturer N05: *…The assessments are set according to the curriculum. Nothing from us. We have two tests and two practical assignments, ISAT, trial examination and final examination in November. We do assessment from DHET, especially the practical assignments.*

One of the lecturers thus indicated that assessments are set by DHET, therefore, they are standardised. Meaning, regardless of the availability of trade resources, the assessments must be carried out.

According to the curriculum documents I reviewed, the assessment regime is composed of both continuous assessment and summative assessment components. As stated in the TVET curriculum instruction for Internal Continuous Assessment (ICASS) guidelines for 2023, for the NCV qualification, seven assessments should be done by students throughout the year. These assessments evaluate students' abilities, knowledge, attitudes, and values. If a student does poorly on an ICASS assessment, there is a chance for re-assessment. All assessments done by a student make up the Portfolios of Evidence (PoEs), whilst the Portfolios of Assessment (PoAs) is the lecturer's record of marked assessments, question papers, attendance registers, marking guidelines, assessment plans, timetables, subject guidelines as well as assessment guidelines.

Table 6.1: Number and spread of assessment tasks which make up the ICASS component across Levels 2, 3 and 4

SUBJECTS	TERM 1	TERM 2	TERM 3	TERM 4**	TOTAL
First Additional Language	2	3	2		7
Life Orientation	2	2/3	2/3		7***
Mathematics or Mathematical Literacy	2	3/4	1/2		7***
Vocational Subject 1	2	2	1*		5
Vocational Subject 2	2	2	1*		5
Vocational Subject 3	2	2	1*		5
Vocational Subject 4	2	2	1*		5
Total number of tasks	**14**	**16/18**	**9/11**		**41**

**Only one task is scheduled for Term 3 in vocational subjects to allow time for the completion and submission of ISATs.*
***No formal ICASS tasks are scheduled for Term 4 to allow for the timeous moderation of Portfolios of Evidence and submission of marks to the Department for resulting purposes.*
****More than 5 formal ICASS tasks are required for fundamental subjects as these subjects do not have an ISAT component.*

The NCV Assessment guidelines for NQF Level 4 subjects state that lecturers must compile a detailed assessment plan and assessment schedule of internal assessments to be undertaken in the subject during the year indicating a specific date, assessment task or activity, rating code or marks allocated, assessor, and moderator.

The NCV policy requires the achievement of a sub-minimum for internal and external assessments related to the ICASS and ISAT components. The required achievement percentages include all vocational subjects with 50%, Life Orientation and First Additional Languages with 40%, and Mathematics and Mathematical Literacy with 30%.

It is thus evident that there is very rigid and extensive assessment regime, which has a considerable impact on the TVET college lecturers. The lecturers do not appear to feel that the current regime is helpful, and one of them suggested that the previous regime worked better:

> **Lecturer N05**: *Previously we had something called a Modula. For example, in Modula, when you are doing Engine overhaul, you must do a theoretical part of it, and you must pass with 80%. If you scored less than 80% you must repeat until you score above the 80%. So, Modula helped us a lot because once you have done the theory part then you must go for practical part on the very same subject - Engine overhaul. It helped because it worked hand-in-hand with theory component and practical component of the Modula.*
>
> **Lecturer N05:** …*The curriculum has changed for worse (*laughed*). They do practical component even if they have failed theory and vice versa.*

The lecturers raised that they favour the previous curriculum as it allowed students to progress once they had passed both practical and theory components of the same module. It worries them that currently students progress even if they have failed one component. This paints a negative picture about the NCV as a programme. It devalues it as has the element of not producing globally competent graduates. this can be evident looking at the throughput rate of NCV programme Level 2 in 2022, KwaZulu-Natal, in Table 2. The table demonstrates that 89.6 % of students in KwaZulu-Natal did not complete the programme. The research site, which is UMgungundlovu TVET College has a throughput of 8.4 % which might be caused by students underperforming in some components of the programme. The students need to pass fundamental subjects as: Mathematics with 30%, English Language and Life Orientation 40%, while vocational subjects require 50% pass. A student who failed a subject in Level 2

cannot progress to Level 4. Therefore, you find that students who have failed a subject in Level 2 repeat it the following year, or drop out instead, resulting in a low throughput rate in level 4. The NCV curriculum, including the assessment strategies and curriculum documents (assessment guidelines and subject guidelines), needs to be reviewed

As discussed in Chapter 3, Fomunyam and Khoza (2020) highlight that curriculum should be changed timeously and not be fixed for years. It is evident that some assessment and subject guidelines are as old as 2007, 2013 and 2015, and potentially outdated. Fomunyam and Khoza indicate that curriculum documents need to be continuously changed in order to match current technologies and fair teaching and learning. However, as is clear from the data the lecturers as the implementers of the curriculum have no say in the development of the curriculum, since they are likely to have indicated that the subject and assessment guidelines of the subjects are outdated and reviewing of the curriculum needs to be done.

6.3 Curriculum as enacted

As discussed in Chapter 3, the enacted curriculum, in contrast to the intended curriculum, is what learners actually encounter in the classroom (in terms of both curriculum content, and how this is transmitted by the educator). It is thus consistent with the **process** emphasis. The process emphasis, as discussed in Chapter 3, is more about how knowledge is imparted to the students than it is on specific learning objectives (Maia & Freire, 2023; Moore, 2012). According to the concept of curriculum as enacted, lecturers at TVET Colleges have the potential to influence the design and delivery of the curriculum, and hence enhance the curriculum. The lecturer needs to acquire a variety of methodologies to facilitate lessons. This is also determined by the ability mix of the students in the class, hence lesson preparation is important, because you know the type of students you have and their learning styles.

Whilst the curriculum documents certainly do not seem to encourage a process approach, the *Teaching and Learning Plan* (DHET, 2023, p. 3) states that ‘colleges must be able to demonstrate the capability of the college to implement new and innovative curricula in short cycle and the ability of the college to show responsiveness and appropriateness of the college Programmes and Qualification Mix’; and there is some evidence that lecturers have the freedom to choose how to teach their subjects. The college also makes choices that affect the curriculum. For example, the college has its own design of lesson plan and the duration of

each lesson is determined by the college. In the case of pedagogy, the college has decided that practical work and theory be taught separately.

In the discussion below, I focus on two key area that emerged from the data – the issue of teaching theory versus practical (and the pedagogical strategies adopted by lecturers), and the issue of teaching resources. I then consider what lecturers and students feel about how the curriculum as enacted link to employability.

6.3.1 Teaching theory versus practical components of the course

Teachers at Technical and Vocational Education and Training (TVET) colleges have difficulties in teaching their already academically challenged Black students. After the apartheid administration ended, the new South African government took over the curriculum and educational methods that were hard for African pupils to follow and that few lecturers could teach because they had not received training before the transformation. TVET lecturers need to bring in both industry experience and pedagogical knowledge to be successful in their teaching and learning. They have to balance industry, educational currency, and contemporary teaching pedagogies. The Lecturer Learning Support system (LLS) is made available for lecturers to learn and network with other lecturers for support and guidance. As discussed in Chapter 2, Mesuwini and Mokoena (2023) found that the majority of lecturers lack the necessary industry skills and expertise for effective teaching and learning.

It is clear that in terms of what actually happens in the enactment of the curriculum, one of the biggest issues is the delivery of the theoretical versus practical components of the course. *The FET Act of 2006* indicated that the NCV programme should consist of a practical component of 70%, with only 30% devoted to the theory component.

The lecturers have devised different strategies to impart the necessary knowledge and skills to the students in preparation for the world of employment. One of the lecturers interviewed has tried to work around the theory/practical problem by combining theory and practice:

> **Lecturer K12***: The implementation of the ICASS tasks is quite challenging because there is shortage of time to prepare the students for ICASS and ISAT, because it is like they have just adapted to the course in Level 4. So there is much time needed for practical work. … Because of time I do practical work and theory simultaneously. I bring some of the tools that are portable to class. It works for me that way. We also*

go to the workshop so that they master how those tools work, how to keep them safe and storage.

This is in contrast to the other lecturer, who sees the two as necessarily separate:

> **Lecturer N05:** *Preparing tools for practical work need a lot of time and we have to give them theoretical part first before they engage with the practical work.*

A student who had not completed suggested that separating theory and practical is a real problem:

> **Student who did not complete D03:** *I did not finish college* (laughs) *because the course was difficult as compared to my previous high school. To me it was more like I am still in high school, because the practical part that I was promised was done the least, and we were doing them after some time, so that I had forgotten what the theory part was all about. So to me it was more difficult than school work. As a result, I dropped out because I was not competent.*

However, one of the students who had successfully completed the course specifically spoke about Lecturer K12's strategy as a helpful teaching strategy:

> **Student who successfully completed S11:** *The lecturers mostly used lecture and demonstration methods for the lecturing of the theory when we are in the class. There were tools that were movable and can be moved to our classrooms. Some lecturers were bringing those tools into class so that when they teach us about those, we can see them instantly, unlike waiting for the period of workshop practical work. I would have forgotten by then.*

Students clearly feel that insufficient time is spent on the practical component:

> **Student who successfully completed N12:** *I think the time allocated for practical work is limited. We need more time hence TVET College needs to sponsor practical skills so as to ensure that these graduates are fit for world of employment.*

> **Current student S05:** *My view on the NCV ERD programme is that the practical part is not enough, because in reality we should be getting 70% workshop experience and 30% theory, but it is not like that. We do not attend for workshop practical work the most. It is like the 30% is for practical work. It is vice versa. The aim of enrolling*

for NCV ERD was that it has much practical work, so I thought I would gain more practical experience in Automotive Repairs.

This last student further elaborated on the need for more practical time in their learning, as follows:

> **Current student S05:** … *I have said before it is lacking more time for practical tasks. I am a hands-on kind of a person more than theorising things. I would be better if most of the time we are in the workshop, that is what I like the most, more than being in the classroom and learning theory. Because it happens that you do not even understand the theory itself, but then understand better when you in the workshop.*

It seems like students would prefer that most time be spent on practical work rather than learning theory, and find combining the two helpful. It also appears that some lecturers work around the intended curriculum of the college, that practical work and theory be taught separately. It is clear that the 70% practical: 30% theory of the intended (DHET prescribed) curriculum needs to actually be enacted; which will require taking into account the actual experiences of the lecturers in trying to implement the curriculum. Continuous lecturer support could also assist a great deal.

Most students thus seemed to have a problem with the theory component in the NCV ERD Level 4 curriculum. Whilst this is related to the curriculum as intended, in terms of setting out what (theory) needs to be covered, the issue of not actually being able to devote 70% of the time to practical significantly worsens this problem. As discussed in my literature review, many students face serious challenges in passing their NCV courses. It is the duty of the TVET college to balance practical skills with theory. However, as is clear from the data, TVET Colleges spend more time lecturing theory than practical skills, with 30% of lecture time given practical skills subjects, while 70% of lecture time is given to theory. Students come to TVET colleges mainly for the practical skills provided since they did not make it through high school. The tendency by TVET colleges of not providing the required 70% of practical skills make it very difficult for students to the NCV programme. This might be due to the fact that workshop equipment was not adequate or is limited which discourage lecturers from taking students to the workshop for practical work because they know that the resources are limited and students need to share them. This makes TVET colleges seem incapable of producing competent graduates. Therefore, it is important for the ERD programme to ensure

that it meets the various needs of the students (furthering their studies, being employable, or being entrepreneurs) for the programme to be responsive.

Mabunda and Frick (2020) argue that many students enrol at a TVET College because they did not achieve a National Senior Certificate, and so they opt for NCV Level 2. According to Mabunda, and Frick these students under-perform in their studies, dropping out at a later stage. This indicates that the NCV programme was difficult for them. It also results in a very low throughput rate at the college, and as a result, the NC(V) programme is perceived negatively by stakeholders.

6.3.2 Inadequate and outdated teaching resources

As is suggested by the other discussion, another key issue relates to how relevant and up-to-date the equipment and material being used is, as well as the issue of insufficient tools and equipment. As mentioned above, the subject guidelines stipulate what physical, learning materials and other resources are required. The intended curriculum document, the *TLP* (DHET, 2023, p. 6*)* emphasised that its scope is to ensure the availability of all the necessary trade resources to deliver all learning aspects stipulated by the curriculum as well as the qualification. Govindasamy (2021) also points out that for learning outcomes to be achieved, there must be adequate learning resources, including advanced technology. The scholar academic ideology discussed by Schiro (2013) assumes that the student-centered curriculum has the potential to significantly influence students' character development when education is carried out correctly. Student-centered curricula are viewed as settings, activities, or units of study where students can create meaning for themselves by interacting with lecturers, other students, concepts, and objects. It is the duty of the lecturers to provide those situations, settings, or work units that encourage the student to grow as they create meaning (and thus learning and knowledge) for themselves (Mesibov & Drmacich, 2022).

The results of the practically-focused ERD NCV Level 4 rely on the availability of learning and training materials, as well as the e-learning support system, required readings, and the learning and training materials to provide direction and guidance. To effectively instruct students in the practical training required in the field of engineering, the lecturer must take the initiative rather than follow the practical content. Rather than just explaining the activities (skills), the lecturer must first demonstrate them. In student-centered curriculum ideas, assessment serves the function of identifying students' capacities in order to promote growth. Because of this, evaluation is subjective and focused on the learner. The instructor could

watch the students do the practical assignments and step in if needed. Thus, a flexible and resourceful environment with highly motivated and disciplined students is necessary for dual-content (practical and knowledge) training to be successful. Furthermore, skill development fosters individual engagement and the mastery of newly acquired knowledge or abilities, which could lead to superior societal competency.

In my face-to-face individual interviews with ERD Level 4 lecturers, the lecturers spoke about the learning materials they use in implementing the curriculum and they commented as follows.

> **Lecturer N05**: *...I use the textbooks, whiteboard and markers, laptop, YouTube videos, workshop equipment like car engines and gearbox and tools as learning materials.*
>
> **Lecturer K12***... My teaching materials are simple. They include chalk board, chalk, tools and equipment like bending machines, grinder, compressor, measuring square, and textbooks. I must mention a workshop too.*

The lecturers indicated that there was limit of resources to conduct assessments and this is what they had to say:

> **Lecturer K12:** *…I think currently the curriculum is still requiring me to use these materials, it has not yet reached the level of the 4th Industrial Revolution as in the industry. The industry is continuously adapting to the change in technology. I think we, as TVET colleges, need to be getting the equipment and tools that match the industry. To ensure responsiveness of the ERD programme, I think updating the equipment that we are using in the workshop, making them match what is currently happening in the industry, is important. Technology in terms of machinery is developing every day in the industry, so if we can go in that pace as programme lecturers we can make it responsive to industry and the community.*
>
> **Lecturer N05:** *The practical materials were scarce. Sometimes we would travel to uMfolozi TVET College to network with other lecturers on how to conduct those practical assignments like ISAT or take our students there if the materials were not delivered. I think the NCV programme needs to be improved so to better address the needs of the industry. As now, we are using petrol and diesel car engine, for the students' practical work, while the industry has introduced electric cars. So we are*

getting behind. If we can get a car that is hybrid or electric for our practical work in the workshop, that can improve our curriculum and better address needs of the engineering industry and make our NCV curriculum responsive, thus making our students employable.

The limited resources and lack of knowledge on how to conduct assessment affect learning outcomes. Enough resources are necessary for successful learning outcomes, including advanced technology, staff development mentoring, curriculum and related materials, tools and models of assessment, and more employees (Omar et al., 2020; Weyrich et al., 2008). Lecturers must be able to reflect on their experiences, understand what they are teaching and how to do it, and be able to carry out their work effectively. This implies that a college lecturer must be capable, prepared, and driven to teach.

This demonstrates that it is essential to enhance TVET Colleges' NCV curriculum through staff development and by including maximum participation of lecturers in curriculum development since they have direct contact with the students and they have encountered numerous challenges during the implementation of the NCV curriculum. Therefore, their inclusion in curriculum development can minimise challenges like of designing practical assessments that unlikely to be conducted due to scarcity of the resources to conduct them or knowing the financial status of their institution that they might not afford such equipment. Unqualified staff and lack of proper resources affect the type of graduates produced by TVET Colleges and makes the industry to unwilling employ TVET graduates. TVET Colleges should liaise with the labour market so ensure that the NCV programme is updated and matches what the industry requires.

The students also raised their challenges with the scarcity of the resources:

Current student M02: *The programme needs some developments in workshop tools and equipment. Some of these tools and equipment are outdated and some need to be timeously serviced. If we can get updated tools and equipment and service equipment that needs servicing, then all would be fine with the course.*

Current student S05: *... Sometimes we learnt about other equipment and machines in the book, only to find that they are not in our workshop. If the college can have adequate workshop equipment and tools, that would help us a great deal.*

The scarcity of resources in TVET Colleges has been a recurring thing as the students who completed also mentioned that they also had the scarcity of resources during their journey in the college:

> **Student who successfully completed S11:** *... The most experience was when we were in the workshop, we were sharing or doing practical work in groups, because the tools and equipment were not enough to accommodate us all. So we were always sharing.*

> **Student who successfully completed S11:** *...But our colleges are not moving towards the current technology which make me to say that their [students] employability is not guaranteed.*

Students felt that the issue of too few or outdated resources was affecting their employability, and thus undermining the purpose of the colleges and the NCV programme. In the history of TVET Colleges while they were called Technical Colleges, the white Technical Colleges had better trade resources as compared to the Technical Colleges attended by black students. This was a strategy by the white government to hinder black students from being competent in the labour market. Sithole et al. (2022) explain that the White Technical Colleges had better resources, a semi-autonomous form of government, and college councils that served as links to the local business community. It seems like the amalgamation of technical colleges did not solve the problem of the imbalanced distribution of resources. I believe that the current issue of scarcity of trade resources and out dated trade resources can be traced back from the apartheid era. It seems upon taking over, the new government lacked a strategy on how to correct this imbalance. If trade resources are scarce and outdated, the quality of the product (TVET graduates) is not guaranteed. Therefore, the ability of TVET Colleges to deliver high-quality skills training was questioned by the labour market (Buthelezi, 2018; Brand, 2021; Mesuwini et al., 2020; Ngidi, 2022). Students believed that the NCV programme's and institutions' goals were being undermined by the problem of inadequate or out-of-date resources, which was impacting their employability. This could lead to students underperforming in their studies and later increasing throughput rate due to high failure rate.

6.3.3 Employability

The lecturers I interviewed had very positive perceptions of the NCV programme, and felt that it met industry needs:

> **Lecturer K12***: The programme meets its objective because most of the people I know who studied the NCV ERD are employed. The NCV programme's skills and knowledge outcome match the industry requirements. I once worked as a boiler maker for a while after completing my N6. A lot of tools and machines that we have here at the college, we had them there at my workplace. Nonetheless, the programme has all the components that can equip a student to be ready for work.*

The students who completed the course raised their concern about the limited chances of the TVET college graduates' employability. They indicated that this might be as a result of limited time allocated for teaching the practical component and outdated practical equipment used by the students. The purpose of TVET Colleges, as discussed above, is thus being undermined. However, the students who had successfully completed the course highlighted that the NCV programme met their expectations:

> **Student who successfully completed S11**: *I can say that the programme met its primary aim which was to provide young people with skills and practical knowledge and that is what is happening. I did acquire skills and practical knowledge and I have my own business. So, I can say it does meet the needs of the students. Also, the programme does meet the needs of the community because the programme has produced learned members (graduates) of the community who have the potential to change the community for the better.*

> **Student who successfully completed N12:** *I can say the programme met its objectives because I am able to perform mechanical activities at my level that actually matches the standard of the skills and knowledge acquired. There is a relationship between the qualification and the course because I am able to understand the basic content of ERD and can perform basic tasks out there in the field.*

Therefore, it can be noted that the students who completed the programme felt that the programme had resulted in them having the necessary skills; but still raised concerns about limited employment opportunities.

Current students, by contrast, seemed unimpressed, particularly because of the issue of the practical/theory balance, as discussed above:

Current student M02: *I think the NCV ERD lost its direction at the beginning, because it was meant to have 70% practical and 30% theory. But now the opposite is happening. We do not use workshops for practical work the most.*

Current student S05: *I can say that the programme does not fully meet its objectives because of the inadequate time for practical work. However, it is a good programme because we have practical work where we get to experience of what we will encounter at our various workplaces. Trade subjects do not need a classroom.*

These findings match those of other studies, as discussed in Chapter 2. For example, the report by Subrahmanyam (2016) highlighted that challenges experienced by TVET College graduates are the same globally, such as the issue of TVET graduates' not being employable. This tends to make the students doubt whether the curriculum is meeting their needs. Subrahmanyam (2016) revealed that TVET colleges do not validate, accredit and recognise learning acquired through non-formal and informal channels. As a result, few students feel interested in vocational education, as there are fewer job prospects within countries and across borders. The recommendations of the article were that in order to enhance career and academic progression prospects for TVET graduates, the TVET sector in Asia-Pacific countries should strengthen links to industry so as to provide work-related training for students.

Generally, about 80% of the participants highlighted that the NCV programme meets their expectations. These students highlighted that the NCV curriculum was relevant. Fomunyam and Khoza (2020) stated that the higher education institutions' curriculum is important for its role in social, economic and cultural developments in society, local and internationally. Therefore, the curriculum of higher education should be designed in such a way that it caters for these developments that are a necessity for providing skills and an innovation-orientated educational experience. The curriculum must be continuously changed to address the societal realities and everyday life of the students. It must equip students with the practical knowledge, skills and innovative ideas to confront any emerging new challenges along their journey of life. However, the participants in my study also highlighted their concerns about the very low level of implementation on the practical tasks as they are not really drawn to colleges by theory but rather by the availability of practical learning in TVET institutions. In their study, Sibiya et al. (2021) also alluded to the fact that TVET institutions potentially offer better opportunities for entering the labour market and finding employment, but in fact

this is not always the case. Often, students need to find employment themselves, because there are no placements.

The dream of most students upon completing tertiary is to bring back to the community. This can be done through starting business in the community. This is well stated as social efficiency in Chapter 3.

The poor execution of the NCV programme may result in graduates lacking competencies and not meeting industry standards, as has been discussed in Chapter 2. Thus, it is argued to be important for stakeholders to collaborate in ensuring that the NCV programme meets the requirement of the industry.

6.4 Improving the relevance of the NCV curriculum

As discussed in Chapter 3, Fomunyam and Teferra (2017) argue that for a curriculum to be holistically relevant, it should show pedagogical or learning relevance; relevance to its knowledge discipline; cultural relevance; and economic relevance. The ability of the curriculum to meet the needs of the students is known as pedagogic relevance, and it should be reflected in approaches to curriculum design, teaching strategies, assessment techniques, and student support strategies that carefully take into account the context and characteristics of target student groups. I have discussed many of these issues above. Disciplinary relevance is about keeping up with new developments in the discipline. Tagulwa et al. (2023) describe cultural relevance as the capacity of the curriculum to understand and address cultural divergence in the classroom. The teacher must be aware of the variety of cultures in the classroom and understand how this influences the process of teaching and learning. They argue that multiculturalism should be promoted in classrooms. Economic curriculum relevance is when the curriculum content, aims and teaching and learning methodologies are aligned with students' needs in preparing them for employment and current economic issues.

In the discussion below, I focus on three key areas that emerged from the data – the need for industry visits; for improved lecturer training and support; and for a bridging course – and consider how these areas relate to curriculum relevance, and how this could be improved.

6.4.1 Industry visits

In chapter 3, I highlighted the forms of curriculum relevance from a study by Fomunyam and Teferra (2017). They mentioned that for the curriculum to meet the demands of society, it

should focus on the capability of the curriculum to shape competency of workers in various economic fields, considering the expertise and marketability of the graduates of the curriculum. If the product (graduates) have acquired problem solving skills and critical skills to solve economic problems, once employed, then the curriculum can be considered as economically relevant. Economic curriculum relevance is when the curriculum content, aims and teaching and learning methodologies are aligned with students' needs in preparing them for employment and current economic issues. The comments from the participants suggest an element of economic curriculum relevance in the NCV curriculum; but obviously also raise some serious concerns.

Apart from dealing with the theory/practical problem, and the issue of limited and/or outdated resources, participants also raised the necessity for visits to industry as a way in which the relevance of the programme could be improved. One of the lecturers had the following to say concerning past industry exposure which he felt should be reintroduced:

> **Lecturer N05:** *We went to ISCOR to show them how boilers work. If we can once a term take our students to industry that can make our teaching and learning effective because student will gain experience. We once visited a plant in Pietermaritzburg dam, to see how water is used to generate electricity. That visit gave students an idea of what is happening outside in the industry and they get excited.*
>
> **Lecturer K12**: *If we can be taken to the industry as lecturers and get exposure and understand what exactly is currently happening in the various industries.*

The lecturers both argue that to improve the effectiveness of the implementation of the NCV curriculum, lecturers should be taken to industry to learn and be exposed to industry requirements. This is in line with the literature discussed in Chapter 2. Mesuwini and Mokoena (2023) stated that most of the lecturers are without industry experience and the essential industry skills for effective teaching and learning. They discovered that there was a 'great need to balance industry, educational currency, and current teaching pedagogies to ensure that VET teachers acquire the skills to be effective in their teaching and learning' (p.430). They suggested that it was significant to keep close relationship with industry professionals so as to update their knowledge timeously and allow them to deliver up-to-date and industry-relevant content that will boost the value of the programme and expand lecturer's expertise. Schnobel (2019) explored what TVET Colleges in Mpumalanga can do to enhance students' employability. She discovered that graduates lacked proper skills,

qualifications were without relevance to the industry, and employers hardly acknowledged the TVET College qualifications. She suggests that building a relationship between stakeholders, collaboration, and revision of the NCV curriculum could assist a great deal in enhancing employability. Subrahmanyam (2016) and Alam et al. (2024) also suggests that TVET Colleges in other developing countries should strengthen links to industry so as to provide work-related training for students.

As discussed in Chapter 3, in the case of the intended curriculum, Schwartz et al. (2019) state that in order to successfully deliver the intended curriculum in the classroom, teachers need to have received training and have pedagogical expertise in the subject matter. They also need to be motivated and have the necessary knowledge and skills. Schipper et al. (2020) agree that a teacher's lack of subject-matter expertise may lead to poor teaching practices, which may also make it more difficult to accomplish the lesson's learning outcomes. Industry exposure could obviously increase lecturers' knowledge and confidence; but ongoing development is also important.

6.4.2 Lecturer training and support

The lecturers voiced their concern about their development as follows:

> **Lecturer N05***: My view on the NCV, is if they can train lecturers to get more understanding about the curriculum as a whole. Because engineering is difficult as compared to business studies. They (curriculum coordinators) can take us to different types of training and be able also to take our learners to the industry so that they can understanding of the ERD curriculum.*
>
> **Lecturer K12**: … *I think the college could support us with enough updated equipment, also arrange workshops for us on how to operate those equipment or machines… If we can be taken to the industry as lecturers and get exposure and understand what exactly is currently happening in the various industries.*

As discussed in Chapter 2, a study by Terblanche and Bitzer (2018) highlighted that there is a need to develop a framework for leading curriculum change in South African TVET Colleges. They indicate that this development should support training and capacity building among TVET College leaders to bring about long overdue curriculum change. They emphasised that if the TVET sector has competent leadership, it will be possible for colleges

to identify and implement strategies to enhance the curriculum in the colleges so as to ensure that lecturers and students have a positive attitude to the TVET curriculum.

The lecturers are worried about the lack of support from the TVET College leadership. The lecturers mentioned that curriculum coordinators could help if they can attend training workshops as the subject is challenging. Their concerns echo those of scholars discussed in Chapter 2. Mesuwini and Mokoena (2023) discovered that there was a 'great need to balance industry, educational currency, and current teaching pedagogies to ensure that VET teachers acquire the skills to be effective in their teaching and learning' (p.430). It was also discovered that TVET lecturers were without pedagogical qualifications; which is a possible key reason why the students in TVET Colleges are facing challenges in academic performance, drop out, and being unemployable. The technology is constantly changing and it is important for the TVET lecturers to get training and support from the relevant stakeholders to boost their confidence when lecturing and produce competent TVET graduates.

This implies that the lecturers are not confident enough as the implementers of the curriculum. This clearly links to disciplinary relevance. Disciplinary relevance concerns the relevance of the curriculum to its knowledge discipline, and has the capacity to encourage and keep up with new developments in the discipline. It also guarantees that local and global events are addressed and that students are motivated to think globally while they act locally (Fomunyam and Teffera, 2017). The lecturers feel that there is a need for training on the curriculum so that they can be subject matter experts on the NCV ERD curriculum. Both of the lecturers further emphasised that industry visits can help in understanding the curriculum. Lecturer N05 also highlighted that industry visits will also benefit the students. Interestingly, the college has recently implemented a week-long workplace placement for students.

Lecturers also indicated lack of support from curriculum experts saying:

> ***Lecturer K12:*** *... I have not heard of curriculum coordinators. I have never been to any workshop so far since 2017 when I joined the college. I normally enquire from my seniors here in the college if I face a challenge in the subject like Boiler maker, especially when I need resources.*
>
> **Lecturer N05:** *...Now we are using our experience. No support from curriculum coordinators.*

Kanyane's (2016) dissertation revealed that lecturers have the view that their participation in curriculum design of the NCV curriculum was minimal. The lecturers in this study indicated that they received the NCV programme from DHET as a top-down approach for them to implement and their only role was to select relevant teaching material. Additionally, they raised that admission requirements to TVET Colleges should be relooked at if the NCV programmes are to meet their aims and be successfully implemented.

The quality of lecturers affects the quality of education and training offered at a TVET College. Therefore, it is crucial that lecturers are sufficiently prepared. Through collaborations with industries, TVET lecturers' quality and effectiveness must be improved. The collaboration between industry and TVET lecturers was established to support lecturer competency and delivery of relevant TVET curriculum (Nkwanyane, 2023; UNESCO, 2012). This establishes the standard of graduates who leave the TVET College after completing NQF Level 4.

The industry had doubts about our TVET College graduates considering them as incompetent which was brought about by the fact that even the lecturers were not professionally equipped or trained about the NCV programmes and they lacked guidance from the curriculum coordinators of the college. The TLP (DHET, 2023) emphasised that focused development is important for ensuring that lecturers deliver subject content confidently and competently for students to succeed.

This was evident with Mesuwini and Mokoena (2023) who showed that indeed a number of TVET lecturers were not prepared for the shift to TVET College curriculum as they lacked industry experience and the relevant industry skills for the effectiveness of teaching and learning. As a result, they recommended it was important to have a close relationship with industry professionals and for lecturers update their discipline and pedagogical knowledge regularly.

6.4.3 Bridging course

Another area for improvement identified by the lecturers relates to the problem of Pure Maths, identified earlier as an issue. One of the lecturers commented:

> **Lecturer K12:***...Maybe if they can add something like a bridging course that will include Pure Maths for these students because they find it hard to adapt to the nature of the course.*

As discussed in Chapter 2, a number of authors have suggested that a bridging course could be useful in helping students transition to TVET college (Huerta et al., 2023; Mokone, 2011). In another South African study by Terblanche and Bitzer (2018), the authors highlighted that there is a need to develop a framework for curriculum in South African TVET Colleges to accommodate secondary school learners who have a longing to enrol at the TVET college but do not have Pure Mathematics. Leaners come to the college with the expectation that they will learn skills only, only to find that there are other fundamental subjects to be done, including Pure Mathematics. These students tend to underperform in their studies, leading to a low throughput rate.

The secondary school subject mix seems not to match the higher education subject requirement for a course, ERD in this case. Mathematics is a requirement for students to enrol for an ERD programme at a TVET College. However, to cope with ERD at a TVET college requires the students to have Pure Mathematics, but many secondary schools offer Mathematical literacy. A bridging course could assist students without Pure Mathematics.

6.5 Conclusion

This chapter analysed and discussed the data generated in my study in relation to the literature reviewed, and the key concepts arising out of my conceptual framework. The following chapter presents the conclusions of the study.

Chapter 7: Conclusion

7.1 Introduction

In the previous chapter, I discussed the findings of the study in relation to my conceptual framework and the literature review. In this final chapter, I draw the study to a conclusion. The chapter will include the summary of the findings, reflections on the findings, reflections on the research process and possible areas for future research

7.2 Summary of the findings

In this section, the key findings related to each research question are presented.

RQ1: What informs the provision of NCV curriculum?

The literature suggests that the primary intention of the NCV curriculum is to improve the economy of the country through offering a programme that provides practical knowledge and skills that are relevant to the world of employment. The NCV programme is also intended to enable students to complete their matric equivalent, further their studies and to acquire entrepreneurship skills. The data suggests that the programme is meeting its objectives. The participants report that the NCV programme enabled them to enrol at the TVET College using their Grade 9 school report. The past students also mentioned that the NCV programme provided them with skills and landed them a job.

Briefly, the participants' point of view correspond to the purpose of TVET colleges as identified by the *Further Education and Training Act (2006),* which also emphasised that TVET Colleges are informed by practical skills and knowledge that are required at work and enable students to continue with their studies at universities using NCV level 4 qualification. *The White Paper for Post School Education and Training* (2013) is aligned with the perception of participants in that the NCV was launched to reduce unemployment.

RQ2: How has the curriculum changed over time?

It is clear from my analysis that the broad ERD curriculum has changed. Before 1994, the curriculum favoured the industrial needs that were required at that time that favoured the white government. However, post-apartheid, the NCV curriculum that was established in

2007 was meant to meet the economic needs of the country and the needs of the black students. The NCV curriculum equipped the students with skills and knowledge necessary for the world of work and also to develop their various communities as well as obtaining entrepreneurship skills. However, the lecturers highlighted that the previous Modula approach, which only allowed students to continue to do practical work when they have passed with 80% in the theory part, was a better system than the current one. The lecturers indicated that this helped the students to be more serious about their college work.

RQ3: What are stakeholders' perception of the NCV programme?

My study focused on the two key stakeholders, the lecturers and students. The participants believed that the NCV curriculum is a good programme. However, it is clear that the participants felt that the curriculum as enacted includes 30% practical work and 70% theory work, whilst the curriculum as intended specifies that there should be 70% practical and 30% theory work. They feel that they are doing a lot more theory than practical work, making it hard for the students who came to the college to do NCV ERD to adapt which leads to student drop out. The participants also feel that the programme is long and that the 45-minute lessons cause problems. They felt that it would be better to have at least 2 hours for practical work. Also, the participants felt that a year-long bridging course was necessary because it is hard for students straight from secondary school to adjust. The students have interests of being entrepreneurs, employed and studying further in higher educational institutions. Participants also reported challenges with limited and outdated trade resources. They worry that this affects the competency of the TVET graduates and employability in general.

The lecturers indicated that there is a need for the alignment of subjects in the schools with the subjects in the TVET Colleges, particularly in the case of Pure Mathematics, which is a requirement for coping with ERD, but many students had not done at secondary school.

RQ4: How can the relevance of the NCV curriculum be improved?

The lecturers indicated that the curriculum can be improved by having programme coordinators. They highlighted that the availability of programme coordinators can assist in improving the curriculum because they encounter challenges when implementing the curriculum. Therefore, the availability of programme coordinators can assist in lecturer's development which can boost their confidence and performance in teaching and learning. Additionally, lecturers believe that an opportunity in curriculum development can minimise obstacles they encounter during the implementation of the NCV programme.

Most participants are concerned about the continuously changing technology in the industry while ERD NCV curriculum in TVET colleges is not adapting to this, especially when it comes to workshop equipment. The scarcity of and limited trade resources was highlighted by most of the participants. They stated that they were also outdated – for example, they mentioned that the electric car engine was the most relevant resource in this technologically changing world, but unavailable at the college. Therefore, the students raised that the learning resources need to be updated to meet the current expectations of the industry, to ensure that the NCV curriculum is relevant and they will be employable. The ERD NCV subject and assessment guidelines for Level 4 needed to be updated to match current topics and aspects that are necessary in the industry to ensure students are employable. On another note, the participants indicated that industry visits can assist them to ensure curriculum relevance and WIL for lecturer training.

Most participants also felt that the inclusion of fundamental subjects Life Skills and Computer Literacy in the programme is good. They particularly favoured Computer Literacy, because it is relevant since we are now living in the Fourth Industrial Revolution and industry has developed to meet the current era.

7.3 Reflections on the findings

As one of the lecturers in the TVET sector, I have discovered that the time factor is a challenge of lecturing NCV. The programme requires a lot of time, while lesson duration is short and the NCV programme is long.

The primary objective of the TVET College as stipulated on the *Further Education and Training Act 2006 Policy* is to provide skills and theoretical knowledge to students for them to be relevant in the world of work and to improve the economy of the country. The mandate of TVET Colleges was to offer 70% practical skills and 30% theory; however, it is clear that the NCV programme is offering more theoretical knowledge than practical skills. This has an impact on the calibre of students produced at TVET Colleges and they tend to not be competitive.

The subject guidelines that need to be followed indicate the topics to be covered and specific outcomes for the fundamental and vocational subjects. These put pressure on the lecturers to finish the programme, while there is also paperwork to consider. It is hard for the lecturers to skip topics because the subject and assessment guidelines indicate which topics and specific

outcomes are to be taught in preparation of an upcoming assessment. The assessment and subject guidelines for vocational subjects were developed in 2007, and are now outdated. This raised a concern for the lectures and the students about the relevance of the curriculum. The curriculum should change continuously, because industry is technologically advancing in the 4th Industrial Revolution era, and students need to be globally competitive.

The lack of exposure to industry of students who are doing NQF Level 4 makes them struggle in their studies and some end up dropping out, resulting in a low throughput rate in the programme. The poor collaboration with industry also makes students question the purpose of continuing with the course.

Furthermore, some students enrol with a Grade 9 report as per the enrolment requirement of the NCV ERD course, only to find that there is a subject gap between TVET College entry requirements for NCV ERD and what students know from their schooling. The secondary schools offer Mathematic literacy which does not match the requirements of the programme. Students then enrol for the course and struggle with Pure Mathematics, resulting in dropout and low throughput rate. There must be a collaboration with secondary schools to close this gap; but a bridging course could also help.

The programme seems skewed in term of gender, as it has a lot of males as compared to females. This could be because of the mentality that the engineering industry is for men whilst females' place is in the kitchen. Females are believed to be fragile and would not be able to cope with heavy machinery in the engineering field. However, females are slowly entering the engineering industry.

Despite the problems raised by the participants, the programme gave rise to community development in that entrepreneurs in the communities where these students and lecturers reside emerged as a result of the programme. In addition, some students did find employment in relevant industries, whilst upon completing the NCV course, it is possible for students to further their studies in higher education institutions.

7.4 Reflections on the research process

This has been a great study to me as a lecturer in the TVET sector. I learnt that students tend to be demotivated by continuously having a single method of lecturing. This was not something I had observed while in my own class, because they seem fine with it. I have also discovered students are vocal when given a chance, they notice everything; while in class

they seem to be content about everything. In my study, students noticed that some equipment in the workshop was malfunctioning, and some is outdated. The fact the lecturers and the students had the same longing for industry visits indicated that talking to students could help minimise dropout rate and increase throughput rate. Regardless of the shortage of trade resources, students never thought of seeking sponsorship from local businessman to assist in purchasing or obtain the workshop equipment.

Stakeholders could be understood to include local industry, community etc., but my study only included lecturers and students. A broader study might have uncovered broader understandings of relevance. My research also consisted of male participants only, which could have compromised my findings, in that it made the NCV curriculum appear to be gendered, and seem like it is mostly studied by males. This is not true. There are also female students who are doing engineering, but they were not included as participants. It is possible that I ended up with only male participants because I had to rely on snowball sampling – and the male lecturers identified only male students who in turn identified other male students. This is a possible weakness of snowball sampling. I should point out that finding participants for interviews was not easy. If a person hears of the word 'interview', the person will think of something difficult and be afraid exposing confidential aspects. Hence some were reluctant to take part. I had to discuss the ethics of my study so as to calm them down into understanding that this was academic research. The participants would at times cancel the appointment on the same date of the interview. I ended up verifying with the participants before I left for the interview and again while on the way.

7.5 Study recommendations

The recommendations arising from this study are as follows:

- It was argued by the lecturers that the high schools offer Pure Mathematics instead of Mathematical Literacy for learners doing science subjects, so to match the subjects offered in the TVET Colleges for engineering programmes and to avoid challenges that they encounter when selecting programmes in TVET colleges. This can assist in preventing the low throughput rate. In that case, an introduction of a bridging course (NQF Level 1) can assist most students who are not meeting the entry requirements for enrolling in engineering programmes in TVET colleges. The study thus recommends that the entry requirement into TVET colleges particularly for

engineering students should include a clause that the student must have done Pure Mathematics at high school; and/or that a bridging course be developed for those students who did not do Pure Mathematics at secondary school.

- It is recommended that lecturers be included in curriculum design and development because they are directly involved in the teaching and learning and they are responsible for the implementation of the curriculum. The lecturers are aware of the challenges that emerge during teaching and learning, and they have the potential to improve those challenges that they encounter during the implementation of the curriculum only when they are involved in curriculum design and development.
- In addition, it is recommended that the recommended 70% of time dedicated to practical work should be implemented, with only 30% of theory, so that students can cope better with the NCV curriculum. As is clear from the study, some students enrol for the NCV curriculum having done poorly in their schooling hoping that it is focused on practical work and they can perform well in their college work. On the same note, peer educators can assist those students who are underperforming in their studies. It is also clear that some students enrol at TVET Colleges to acquire specific skills and certification so that they can be employable.
- Industry visits by both the students and lecturers are also suggested so that they can better align the NCV ERD programme with the expectations of the industry and assist lecturers in becoming experts in their field of work while the students will gain industry exposure and become employable. The study recommends that at a local level TVET colleges must create good relations and networks with local industry and business for closer and mutually beneficial relationships, for example, working with SETAs to create real work experience.
- Furthermore, it is recommended that the teaching resources for ERD L4 be improved and continuously updated so that they are adequate and so meet the continuously changing demands of the industry and allow for students to be employable. The NCV programme needs to be reviewed to ensure it relevance to the labour market.

7.6 Possible areas for future research

After completing the study and in view of its limitations, I recommend that a similar research study be conducted with a larger sample size from diverse colleges with a view to collecting

results that can aid generalisation. For example: Evaluating curriculum relevance of ERD L4, a case of five TVET colleges in KwaZulu-Natal.

A study on the benefits of lecturer participation in curriculum development and its impact on curriculum implementation would be useful. Another study could be on aligning or matching secondary school subjects with TVET college programmes. As discussed above, a study using a broader conceptualisation of key holders might also be useful.

7.7 Conclusion

The purpose of this study was to explore the perceptions of students and lecturers at the Plessislaer campus of the UMgungundlovu TVET College of the relevance of the Engineering and Related Design NCV Level 4 curriculum. In evaluating the NCV curriculum provision, how the NCV curriculum change over time, the perceptions of the stakeholders as well as how the curriculum can the NCV curriculum be made responsive, most of the participants indicated the scarcity of resources as the barrier to successfully producing skilled TVET College graduates. I also discovered that vocational education still exists at home because one participant indicated that he enrolled at the college so that he can get a certificate: *I opted for automotive repair because my father has a motor repair shop. So I went to the college to acquire skills in motor repairing and that I can be certified for job security* (G05). He has been taught the motor repairing skills at home, and he needed the certificate for job or operational security.

The findings of the study indicated that the NCV ERD Level 4 curriculum meets the students' needs as well as the needs for the broader developing community of Greater Edendale, because students were entrepreneurs of Plessislaer and they got employment and were able to further their studies to universities. It was also discovered from the students that going for industry tours can help motivate them into continuing or completing the programme, thus increasing throughput rate.

A common finding was that too much theory component is taught in the curriculum compared to the practical component. Both the lecturers and students brought it to my attention that theory takes up 70% of the taught programme, instead of the 30% stipulated in the curriculum as intended documents. The time factor was discovered to be the cry of both the lecturers and the students. It is clear that the 45-minute time period for conducting lessons was not enough for an engineering programme, and two hours was preferred for practical

classes. It also emerged that the duration of the course needed review, with a bridging course being suggested by the lecturers.

The lecturers indicated that they cannot cover the required practical work because the syllabus is long, yet there is no time; they thus suggested that there should be more involvement of lecturers during curriculum development of ERD in future, in order for them to suggest the possibility of implementing the set curriculum by curriculum developers.

Lastly, the study shows that it is important to take students and lecturers for industry visits to be exposed to what exactly is happening in the industry, to motivate the students and ensure that they know what to expect in the industry. The visits could also help in updating the curriculum to match industry requirements, resulting in our students being more employable. It appears that this has started to happen:

> **Student who successfully completed S11:** *I am also aware of the changes occurring at the campus currently - that at UMgungundlovu College, the Level 4 students can go to the respective industry for a week to observe what exactly is happening there. That is a good move.*

That implies that the industry is showing students what it expects from them and the students know what is happening in the industry. However, I can conclude that the NCV ERD Level 4 curriculum largely meets the needs of the students; as a result, some of the former students of UMgungundlovu TVET College are employed, some are entrepreneurs who are developing their communities, and some have furthered their education to universities through the NCV ERD Level 4 curriculum.

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Appendix A: Ethical clearance

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

12 October 2023

Nombulelo Vuyiswa Masuku (220106725)
School Of Education
Pietermaritzburg Campus

Dear NV Masuku,

Protocol reference number: HSSREC/00005208/2023
Project title: Evaluating curriculum relevance at a technical vocational education and training college: A framework of National Certificate Vocational curriculum at Greater Edendale in KwaZulu-Natal
Degree: Masters

Approval Notification – Amendment Application

This letter serves to notify you that your application and request for an amendment received on 28 September 2022 has now been approved as follows:

- Reduction in the categories of participants
- Change in Research sites
- Change in Objectives

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form; Title of the Project, Location of the Study must be reviewed and approved through an amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Best wishes for the successful completion of your research protocol.

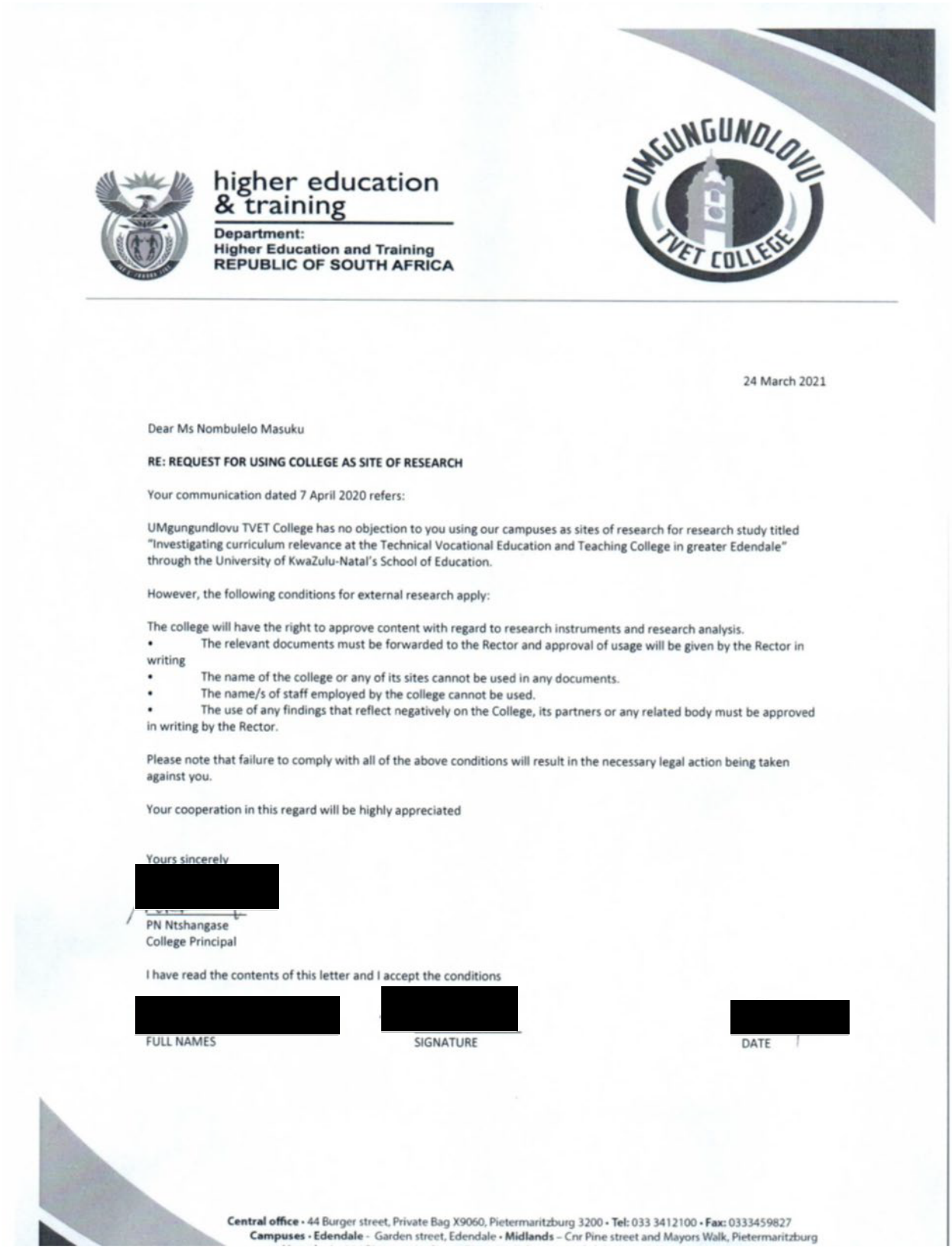
Yours faithfully

[redacted]

.....
Professor Dipane Hlalele (Chair)

/dd

Appendix B: Permission letter



higher education & training
Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

UMGUNGUNDLOVU TVET COLLEGE

24 March 2021

Dear Ms Nombulelo Masuku

RE: REQUEST FOR USING COLLEGE AS SITE OF RESEARCH

Your communication dated 7 April 2020 refers:

UMgungundlovu TVET College has no objection to you using our campuses as sites of research for research study titled "Investigating curriculum relevance at the Technical Vocational Education and Teaching College in greater Edendale" through the University of KwaZulu-Natal's School of Education.

However, the following conditions for external research apply:

The college will have the right to approve content with regard to research instruments and research analysis.

- The relevant documents must be forwarded to the Rector and approval of usage will be given by the Rector in writing
- The name of the college or any of its sites cannot be used in any documents.
- The name/s of staff employed by the college cannot be used.
- The use of any findings that reflect negatively on the College, its partners or any related body must be approved in writing by the Rector.

Please note that failure to comply with all of the above conditions will result in the necessary legal action being taken against you.

Your cooperation in this regard will be highly appreciated

Yours sincerely

[redacted]

PN Ntshangase
College Principal

I have read the contents of this letter and I accept the conditions

[redacted] [redacted] [redacted]

FULL NAMES SIGNATURE DATE

Central office • 44 Burger street, Private Bag X9060, Pietermaritzburg 3200 • Tel: 033 3412100 • Fax: 0333459827
Campuses • Edendale - Garden street, Edendale • Midlands – Cnr Pine street and Mayors Walk, Pietermaritzburg

Appendix C: Informed consent letters

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

School of Education
College of Humanities
University of KwaZulu-Natal
Pietermaritzburg Campus
24th July 2023

Dear NCV L4 student

INFORMED CONSENT LETTER

I am Nombulelo Masuku. I am doing a Master of Education (Adult Education) degree at the University of KwaZulu-Natal. My research study is titled: ***Evaluating curriculum relevance at a Technical and Vocational Education and Training college: A framework of National Certificate Vocational curriculum at Greater Edendale in KwaZulu-Natal.***

The objectives of this study are as follows:

- To determine factors that inform the provision of NCV curriculum
- To determine how the NCV curriculum has changed over time.
- To determine the key stakeholders' perceptions on the relevance of the NCV curriculum to students in the Plessislaer context.
- To determine how the relevance of the NVC curriculum could be improved.

You are invited to kindly participate in the study because you are a student who is currently doing the National Certificate (Vocational) in Engineering and Related Design at Level 4. I am interested in finding out your views about the relevance of the NCV Engineering and Related Design Level 4, and how it could be made more relevant. So there are no right or wrong answers to any of the questions, I am just interested in your own views.

Please note that:

- Your participation is voluntary, and you can decide not to participate, or if you do participate you can withdraw at any time without there being any consequences for you.
- Your identity will be hidden – I will use a code instead of your name, so no-one will be able to identify that the information came from you.
- Information I collect from you will be kept in a secure storage and will be destroyed after 5 years.
- I have received permission from the Department of Higher Education and Training to conduct the study in the college.
- I have received ethical clearance from the University of KwaZulu-Natal to conduct the study (approval number HSSRC/00005208/2023).

Your involvement is for academic purposes only, and there are **no financial** benefits involved. However, by participating, you gain the opportunity to voice your perceptions on the curriculum to the relevant stakeholders, which could have a positive impact on the NCV curriculum. If you do consent to participate in this study, please sign the attached informed consent form.

Yours faithfully

Nombulelo Masuku

My contact details are as follows:

Email: [redacted]

Cell phone: 0[redacted]

My main supervisor is Dr Zamo Hlela, from the School of Education, College of Humanities, Pietermaritzburg Campus, University of KwaZulu-Natal.

His contact details are:

Email: HlelaZ@ukzn.ac.za

Phone number: [redacted]

If you have any questions or concerns, you may also contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557- Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

DECLARATION OF CONSENT

I …… (Full names of participant) hereby confirm that I have been informed about the study entitled **'Evaluating the curriculum relevance at a Technical and Vocational Education and Training college: A framework of National Certificate Vocational curriculum at UMgungundlovu TVET college at Greater Edendale in KwaZulu-Natal** by Nombulelo Masuku.

I understand the nature of the study and its contents and I consent to participate in study.

YES/NO

I understand that I can withdraw from the study without any penalties and I am participating at my own will.

I understand that a code will be used instead of my name, so that no-one will be able to identify me in the research.

I permit the researcher to use audio recording during the interview. YES/NO

If I have any further questions/concerns or queries related to the study, I understand that I may contact the researcher at [redacted] and [redacted] or 220106725@stu.ukzn.ac.za.

For any queries and concerns concerning my rights as a participant, or in case I have a concern on a certain aspect of the study, or the researcher, then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA

Email: HSSREC@ukzn.ac.za

……...

Name of Participant

…… ……

Signature of Participant

School of Education
College of Humanities
University of KwaZulu-Natal
Pietermaritzburg Campus
24th July 2023

Dear former NCV L4 Student

INFORMED CONSENT LETTER

I am Nombulelo Masuku. I am doing a Master of Education (Adult Education) degree at the University of KwaZulu-Natal. My research study is titled: *Evaluating curriculum relevance at a Technical and Vocational Education and Training college: A framework of National Certificate Vocational curriculum at Greater Edendale in KwaZulu-Natal*.

The objectives of this study are as follows:

- To determine factors that inform the provision of NCV curriculum
- To determine how the NCV curriculum has changed over time.
- To determine the key stakeholders' perceptions on the relevance of the NCV curriculum to students in the Plessislaer context.
- To determine how the relevance of the NVC curriculum could be improved.

You are invited to kindly participate in the study because you were once a student for National Certificate (Vocational) in Engineering and Related Design at Level 4. I am interested in finding out your views about the relevance of the NCV Engineering and Related Design Level 4, and how it could be made more relevant. So there are no right or wrong answers to any of the questions, I am just interested in your own views.

Please note that:

- Your participation is voluntary, and you can decide not to participate, or if you do participate you can withdraw at any time without there being any consequences for you.
- Your identity will be hidden – I will use a code instead of your name, so no-one will be able to identify that the information came from you.
- Information I collect from you will be kept in a secure storage and will be destroyed after 5 years.
- I have received permission from the Department of Higher Education and Training to conduct the study in the college.
- I have received ethical clearance from the University of KwaZulu-Natal to conduct the study (approval number HSSRC/00005208/2023).

Your involvement is for academic purposes only, and there are no financial benefits involved. However, by participating, you gain the opportunity to voice your perceptions on the curriculum to the relevant stakeholders, which could have a positive impact on the NCV curriculum. If you do consent to participate in this study, please sign the attached informed consent form.

Yours faithfully

Nombulelo Masuku

Email: [redacted]

Cell phone: [redacted]

My main supervisor is Dr Zamo Hlela, from the School of Education, College of Humanities, Pietermaritzburg Campus, University of KwaZulu-Natal.

His contact details are:

Email: HlelaZ@ukzn.ac.za

Phone number: [redacted]

If you have any questions or concerns, you may also contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557- Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

School of Education
College of Humanities
University of KwaZulu-Natal
Pietermaritzburg Campus
24th July 2023

Dear NCV L4 Alumnus Student

INFORMED CONSENT LETTER

I am Nombulelo Masuku. I am doing a Master of Education (Adult Education) degree at the University of KwaZulu-Natal. My research study is titled: ***Evaluating curriculum relevance at a Technical and Vocational Education and Training college: A framework of National Certificate Vocational curriculum at Greater Edendale in KwaZulu-Natal.***

The objectives of the study are as follows:

- To determine factors that inform the provision of NCV curriculum.
- To determine how the NCV curriculum has changed over time.
- To determine the key stakeholders' perceptions on the relevance of the NCV curriculum to students in the Plessislaer context.
- To determine how the relevance of the NVC curriculum could be improved.

You are invited to kindly participate in the study because you were a student who did the National Certificate (Vocational) in Engineering and Related Design at Level 4. I am interested in finding out your views about the relevance of the NCV Engineering and Related Design Level 4, and how it could be made more relevant. So there are no right or wrong answers to any of the questions, I am just interested in your own views.

Please note that:

- Your participation is voluntary, and you can decide not to participate, or if you do participate you can withdraw at any time without there being any consequences for you.

- Your identity will be hidden – I will use a code instead of your name, so no-one will be able to identify that the information came from you.
- Information I collect from you will be kept in a secure storage and will be destroyed after 5 years.
- I have received permission from the Department of Higher Education and Training to conduct the study in the college.
- I have received ethical clearance from the University of KwaZulu-Natal to conduct the study (approval number HSSRC/00005208/2023).

Your involvement is for academic purposes only, and there are **no financial** benefits involved. However, by participating, you gain the opportunity to voice your perceptions on the curriculum to the relevant stakeholders, which could have a positive impact on the NCV curriculum. If you do consent to participate in this study, please sign the attached informed consent form.

Yours faithfully

Nombulelo Masuku

My contact details are as follows:

Email: [redacted]

Cell phone: [redacted]

My main supervisor is Dr Zamo Hlela, from the School of Education, College of Humanities, Pietermaritzburg Campus, University of KwaZulu-Natal.

His contact details are:

Email: HlelaZ@ukzn.ac.za

Phone number: [redacted]

If you have any questions or concerns, you may also contact:

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Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557- Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

DECLARATION OF CONSENT

I …… (Full names of participant) hereby confirm that I have been informed about the study entitled **Evaluating the curriculum relevance at a Technical and Vocational Education and Training college: A framework of National Certificate Vocational curriculum at UMgungundlovu TVET college at Greater Edendale in KwaZulu-Natal** by Nombulelo Masuku.

I understand the nature of the study and its contents and I consent to participate in study.

YES/NO

I understand that I can withdraw from the study without any penalties and I am participating at my own will.

I understand that a code will be used instead of my name, so that no-one will be able to identify me in the research.

I permit the researcher to use audio recording during the interview. YES/NO

If I have any further questions/concerns or queries related to the study, I understand that I may contact the researcher at [redacted] and [redacted]m or 220106725@stu.ukzn.ac.za.

For any queries and concerns concerning my rights as a participant, or in case I have a concern on a certain aspect of the study, or the researcher, then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Email: HSSREC@ukzn.ac.za

……...

Name of Participant

…… ……

Signature of Participant **Date**

School of Education
College of Humanities
University of KwaZulu-Natal
Pietermaritzburg Campus
24th July 2023

Dear NCV Level 4 Engineering and Related Design lecturer L4

INFORMED CONSENT LETTER

I am Nombulelo Masuku. I am doing a Master of Education (Adult Education) degree at the University of KwaZulu-Natal. My research study is titled: ***Evaluating curriculum relevance at a Technical and Vocational Education and Training college: A framework of National Certificate Vocational curriculum at Greater Edendale in KwaZulu-Natal.***

The objectives of the research are as follows:

- To determine factors that inform the provision of NCV curriculum
- To determine how the NCV curriculum has changed over time.
- To determine the key stakeholders' perceptions on the relevance of the NCV curriculum to students in the Plessislaer context
- To determine how the relevance of the NVC curriculum could be improved.

You are invited to kindly participate in the study because you are lecturing NCV Level 4 Engineering and Related Design. I am interested in finding out your views about the relevance of the NCV Engineering and Related Design Level 4, and how it could be made more relevant. So there are no right or wrong answers to any of the questions, I am just interested in your own views.

Please note that:

- Your participation is voluntary, and you can decide not to participate, or if you do participate you can withdraw at any time without there being any consequences for you.

- Your identity will be hidden – I will use a code instead of your name, so no-one will be able to identify that the information came from you.
- Information I collect from you will be kept in a secure storage and will be destroyed after 5 years.
- I have received permission from the Department of Higher Education and Training to conduct the study in the college.
- I have received ethical clearance from the University of KwaZulu-Natal to conduct the study (approval number HSSRC/00005208/2023).

Your involvement is for academic purposes only, and there are **no financial** benefits involved. However, by participating, you gain the opportunity to voice your perceptions on the curriculum to the relevant stakeholders, which could have a positive impact on the NCV curriculum. If you do consent to participate in this study, please sign the attached informed consent form.

Yours faithfully

Nombulelo Masuku

Email: [redacted]

Cell phone: [redacted]

My main supervisor is Dr Zamo Hlela, from the School of Education, College of Humanities, Pietermaritzburg Campus, University of KwaZulu-Natal.

His contact details are:

Email: HlelaZ@ukzn.ac.za

Phone number: [redacted]

If you have any questions or concerns, you may also contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557- Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

Appendix D: Interview schedules

Semi-structured interview schedule: Lecturers

Introduction

Thank you for agreeing to meet with me. I would like to confirm that this is academic research towards my Masters in Education at the University of KwaZulu-Natal. The title of my research is **Evaluating curriculum relevance at a Technical and Vocational Education and Training college: A framework of National Certificate Vocational curriculum at Greater Edendale in KwaZulu-Natal**, and is aimed at finding out your views about the relevance of the NCV Engineering and Related Design Level 4 and how it could be made more relevant. So there are no right or wrong answers to any of the questions, I am just interested in your own views.

Please note that your participation in this study is voluntary. Your identity will be hidden – I will use a code instead of your name – however, because you are a lecturer in the Engineering and Related Design NCV Level 4 (the topic of my study) at Plessislaer campus (my research site), it is possible that someone might be able to identify that the information came from you.

The interview should take approximately one hour. With your permission, I would like to audio record the interview because I do not want to miss any of your comments.

You may decline to answer any question or stop the interview at any time and for any reason.

Do you have any questions about what I have just explained?

I would like you to read the consent letter, and sign the declaration form if you agree to participate.

[Once the lecturer has agreed, including to be recorded] Thank you for agreeing to participate. Can I turn on the audio recorder?

Interview schedule for the Lecturers lecturing Level 4 Engineering and Related Design on Plessislaer campus

Participant code: …….

Date of interview: ……

Time of interview: ……

Duration of interview: 1 hour

Evaluating curriculum relevance at a Technical and Vocational Education and Training college: A Framework of National Certificate Vocational curriculum at Greater Edendale in KwaZulu-Natal

SECTION A

DEMOGRAPHIC DATA (**Please CROSS (X**) where appropriate)

1. Gender

Female	**Male**	**Other/rather not say**

2. Ethnicity

Black	Indian	White	Coloured	Other/rather not say

3. Highest qualification

SECTION B

Curriculum purpose

4. What would you say is the purpose of a TVET college, in general?
5. What is your understanding of the concept of curriculum?
6. What would you say is the purpose of the NCV curriculum for Engineering and Related Design?

Curriculum delivery

7. How do you plan each lesson?
8. Is the time allocation for each lecturing session enough for you to finish the lesson as prepared?
9. Which teaching materials do you use for Engineering and Related Design?

10. Are there any challenges that you are currently experiencing in lecturing the course?
11. What is your opinion of the assessment regime for NCV Level 4 Engineering and Related Design?
12. How effective is implementation of the ICASS task in particular? Are there any challenges with this task?

Curriculum relevance

13. What first attracted you to lecturing on the Engineering and Related Design NCV Level 4 programme? Can you tell me about any interesting aspects about lecturing the course?
14. Do you think the programme meets its objectives?
15. In your opinion, does the programmes' skills and knowledge outcomes match the industry requirements? Please explain your answer.
16. Is there any part of the curriculum that you regard as irrelevant? If so, why? If not, why not?
17. What, if any, are the processes used to ensure the responsiveness of the Engineering and Related Design level 4 curriculum to the training needs of the engineering industry?
18. What do you think can be done to improve the Engineering and Related Design Level 4 curriculum so that it better addresses the needs of the engineering industry?
19. Are the graduates employable after completing the course? If not, why? If so, why?
20. Do most graduates from the programme find employment? If not, why not?
21. What, if any, specific skills or topics do you feel should be incorporated in order to better meet the expectations of the engineering industry?
22. What is your perception of the NCV Mechanical Engineering curriculum offered?
23. What do you think can be done to ensure the effectiveness of teaching and learning?
24. How often are you supported by curriculum advisors?
25. Are the students the students motivated to attend the course? If not, explain why?
26. Please describe your overall experience of lecturing in Engineering and Related Design at the college.
27. Considering your lecturing experience, what would you say is the cause of students dropping out and the low throughput rate?
28. Do you have any comments on the students' attendance?
29. Do you think the programme meets the needs of students?
30. Do you think the programme meets the needs of the broader community?
31. Is there any part of the curriculum that you regard as irrelevant? Why? If you think it is all relevant, why do you think so?

Improving the relevance NCV Engineering and Related Design programme

32. To summarise, what is your general perception of the NCV Engineering and Related Design curriculum as it is currently offered?
33. Are there any areas of the Engineering and Related Design course that you think need development? If so, why do you think it needs this development? What areas of development do you think there are?
34. In your opinion, how can the college assist in further developing the NCV Engineering and Related Design Level 4 programme?
35. Is there anything you would like you add?

Thank you for your cooperation

Semi-structured interview schedule: Current students

Introduction

Thank you for agreeing to meet with me. I would like to confirm that this is academic research towards my Masters in Education at the University of KwaZulu-Natal. The title of my research is **Evaluating curriculum relevance at a Technical and Vocational Education and Training college: A framework of National Certificate Vocational curriculum at Greater Edendale in KwaZulu-Natal**, and is aimed at finding out your views about the relevance of the NCV Engineering and Related Design Level 4 and how it could be made more relevant. So there are no right or wrong answers to any of the questions, I am just interested in your own views.

Please note that your participation in this study is voluntary. Your identity will be hidden – I will use a code instead of your name, so no-one will be able to identify that the information came from you.

The interview should take approximately one hour. With your permission, I would like to audio record the interview because I do not want to miss any of your comments.

You may decline to answer any question or stop the interview at any time and for any reason.

Do you have any questions about what I have just explained?

I would like you to read the consent letter, and sign the declaration form if you agree to participate.

[Once the student has agreed, including to be recorded] Thank you for agreeing to participate. Can I turn on the audio recorder?

Interview schedule for current students studying Level 4 Engineering and Related Design on Plessislaer campus

Participant code: …….

Date of interview: ……

Time of interview: ……

Duration of interview: 1 hour

Evaluating curriculum relevance at a Technical and Vocational Education and Training college: A Framework of National Certificate Vocational curriculum at Greater Edendale in KwaZulu-Natal

SECTION A: DEMOGRAPHIC DATA (**Please CROSS (X**) where appropriate)

36. Gender

Female	**Male**	**Other/rather not say**

37. Ethnicity

Black	Indian	White	Coloured	Other/rather not say

38. Age

39. Were you from the Greater Edendale area at the time your registered for the NCV course?

Yes	No

SECTION B

Year of registration a Plessislaer TVET College

40. What year did you register at this TVET college?
41. What year are you hoping to complete?

Curriculum purpose

42. What would you say is the purpose of a TVET college, in general?
43. What would you say is the purpose of the NCV curriculum for Engineering and Related Design?

Curriculum relevance

44. What first attracted you to the Engineering and Related Design NCV programme? Can you tell me about any aspects that first interested you about the course?
45. What is your view on the NCV Engineering and Related Design programme now that you are actually doing it? Does it meet your expectations? If not, where is it missing? If yes, please tell me about it.
46. Do you think the programme meets its objectives?
47. What, if anything, keeps you motivated as a student doing NCV Engineering and Related Design Level 4?
48. Do you think the content is helping you in preparing for work in the Engineering industry? How/why not? What career opportunities do you see for yourself upon completing your course?
49. To what extent does the programme's skills and knowledge match what you understand to be the workplace requirements?
50. Do you think the programme meets the needs of students?
51. Do you think the programme meets the needs of the broader community?
52. Is there any part of the curriculum that you regard as irrelevant? Why? If you think it is all relevant, why do you think so?

Improving the relevance of the NCV Engineering and Related Design programme

53. To summarise, what is your general perception of the NCV Engineering and Related Design curriculum as it is currently offered?
54. Are there any areas of the Engineering and Related Design course that you think need development? If so, why do you think it needs this development?
55. In your opinion, how can the college assist in further developing the NCV Engineering and Related Design programme?
56. Can you think of a time when you considered deregistering? Why did that happen?
57. Are there any challenges that you are currently experiencing in the course of your study?
58. What would be of help to you far as your studies are concerned?
59. Is there anything you would like you add?

Thank you for your cooperation.

Semi-structured interview schedule: alumni

Introduction

Thank you for agreeing to meet with me. I would like to confirm that this is academic research towards my Masters in Education at the University of KwaZulu-Natal. The title of my research is **Evaluating curriculum relevance at a Technical and Vocational Education and Training college: A framework of National Certificate Vocational curriculum at Greater Edendale in KwaZulu-Natal**, and is aimed at finding out your views about the relevance of the NCV Engineering and Related Design Level 4 and how it could be made more relevant. So there are no right or wrong answers to any of the questions, I am just interested in your own views.

Please note that your participation in this study is voluntary. Your identity will be hidden – I will use a code instead of your name, so no-one will be able to identify that the information came from you.

The interview should take approximately one hour. With your permission, I would like to audio record the interview because I do not want to miss any of your comments.

You may decline to answer any question or stop the interview at any time and for any reason.

Do you have any questions about what I have just explained?

I would like you to read the consent letter, and sign the declaration form if you agree to participate.

[Once the student has agreed, including to be recorded] Thank you for agreeing to participate. Can I turn on the audio recorder?

Interview schedule for alumni student studied Level 4 Engineering and Related Design on Plessislaer campus

Participant code: …….

Date of interview: ……

Time of interview: ……

Duration of interview: 1 hour

Evaluating curriculum relevance at a Technical and Vocational Education and Training college at UMgungundlovu TVET college: A Framework of National Certificate Vocational curriculum at Greater Edendale in KwaZulu-Natal

SECTION A: DEMOGRAPHIC DATA (**Please CROSS (X)** where appropriate)

60. Gender

Female	**Male**	**Other/rather not say**

61. Ethnicity

Black	Indian	White	Coloured	Other/rather not say

62. Age

63. Are your currently employed?

Yes	No

64. Were you from the Greater Edendale area at the time you studied your NCV Level 4 Engineering course?

Yes	No

SECTION B: CURRICULUM RELEVANCE

Curriculum purpose & Objectives

65. What would you say is the purpose of a TVET college, in general?
66. What would you say is purpose of the NCV curriculum for Engineering and Related Design?
67. What first attracted you to the Mechanical Engineering NCV programme? Can you tell me about any aspects that first interested you about the course?
68. What is your view on the NCV Mechanical Engineering programme since you studied it? Did it meet your expectations? If not, where did it miss? If yes, please tell me about it.
69. Can you think of a time when you considered deregistering? Why did that happen? Why did you decide not to deregister?
11. Were there any challenges that you experienced in the course of your study?
12. Do you think the programme met its objectives?
13. IF THE STUDENT IS EMPLOYED: What do you see as the relationship between the qualification and course studied? What is the benefit derived from the course to employment?

Content and subject matter

14. Do you think the content helped you in preparing for work in the Engineering industry? How/why not? What other career opportunities do you see yourself in in the future?
15. To what extent does the programme's skills and knowledge match what you understood to be the workplace requirements?

Methods and learning experience

16. What methods did the lecturers use to teach in class/workshop?
17. Which methods did you like the most and why?
18. Which method/s did you least like and why?
19. Can you tell me about your experiences as a student at the TVET College?

Assessments & evaluation

20. How was learning assessed in class/workshop while you were a student?
21. What are your views regarding how assessment was conducted?
22. Do you think the programme meets the needs of students?
23. Do you think the programme met/meets you needs?
24. Do you think the programme meets the needs of the broader community?
25. Is there any part of the curriculum that you regard as irrelevant? Why? If you think it is all relevant, why do you think so?

Improving the relevance of the NCV Engineering and Related Design programme

26. What is your general perception of the NCV Engineering and Related Design curriculum as it is currently offered?
27. Are there any areas of the Mechanical engineering course that you think need redevelopment? If so, in what way and why?
28. In your opinion, how can the college assist in further developing the NCV Engineering and Related Design programme?
29. Are you aware of any changes in the NCV Engineering and Related Design Level 4 as offered at Plessislaer campus since you completed it?
30. Is here anything you would like you add?

Thank you for your cooperation.