THE SIGNIFICANCE OF TECHNICAL EDUCATION IN BASIC EDUCATION: A CASE OF HIGH SCHOOLS IN UMLAZI, DURBAN

This work is submitted in fulfilment of the requirements for the degree of Master of Science in Public Management (Public Administration) Faculty of Management Sciences at the Durban University of Technology

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Abstract

Education is a fundamental building block of economic growth. The quality of education in South Africa remains extremely poor, mostly in the historically-deprived areas; the schools do not even meet the basic learning infrastructure requirements, such as access to laboratories, libraries, and internet connections; and schools have fewer qualified educators than qualified ones. As a result, learners experience learning deprivation, higher-grade repetition, and dropout rates (Statistics South Africa, 2015 and 2016). The inadequate quality of primary education accounts for many secondary dropouts. Primary education in townships and remote areas fails to prepare children for secondary and tertiary education. For instance, primary education has not fully transformed from educating Black children to being “hewers of wood and drawers of water,” as said by Hendrik Verwoerd.

The demand for skills necessary for employment and socio-economic development created the demand for some form of technical education and training in South Africa. The technical education and training system in South Africa is influenced by the history of the apartheid government. There is a lack of information and research on the contents of the technical education curriculum in secondary schools. It is evident that there is a huge gap between technical and secondary schools in Durban in terms of learner service delivery, such as performance, skill, and matric pass rates. The concentration should not be in urban areas only; learners in rural areas should be exposed to such education as well.

To assess the nature of technical education in secondary schools in the Umlazi district, this study examined the significance of technical education in lower-level grade curriculums. Data was collected through a qualitative method with participants drawn from the community and schools in the area.

Declaration

I, NHLAKANIPHO MNCEDISI SOSIBO, hereby declare that this work contains no material which has been accepted for the award of any degree in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the paper.

11/02/2023

Signed Date

Dedication

To my parents, grandparents and all those who came before them and I also dedicate this thesis to the youth of SA.

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I would like to extend my sincere appreciation and heartfelt gratitude to:

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Chapter 1

Study Introduction and Orientation

1.1. Introduction

Everyone has a fundamental right to quality education. It is the key to fully unleashing any society's human and national potential. Balogun (2010) argues that education is an essential light that the world relies on to eliminate darkness. Science and technology are the foundations of modernity; thus, all countries prioritise them (though the level of importance varies from country to country). The current trend is toward skills-based education, which places greater value on practical experience and competency in the workplace than on the accumulation of general knowledge and the pursuit of certifications (Doner & Schneider, 2020). The rising unemployment rate in South Africa has contributed to a greater demand for vocational and technical training (Du Toit & Gaotlhobogwe, 2018; McGrath, 2020).

The government of South Africa is paying close attention to the problem of a lack of qualified workers. However, even in modern-day SA, talent gaps persist. 0. The Skills Development Act (No. 98 of 1999) established the institutional and legal basis for increasing strategic investment in education and training across all economic sectors. As a result of this legislation, Sector Education and Training Authorities (SETAs) were established to advance skill building and are now administered by representatives of organised labour and business. The NQF was established by the South African Qualifications Authority Act (No. 58 of 1995) to make higher education more widely available and transferable for students. It was superseded by the National Qualifications Framework Act (No. 67 of 2008). Numerous attempts have been made to improve the quality of education in the country, such as modifying the curriculum, yet the country is still experiencing severe skill gaps.

The need for technical education for young people resulted from the industrial growth that began in the late 1800s. This need was first associated with expanding the mining sector and building railroads, harbours, and minor engineering workshops in major cities (Pittendrigh, 1988; Malherbe, 1977). Throughout history, technical education has

been defined as “a type of education which had reference to manufacturing and industrial pursuits and the scientific principles underlying these” (Smuts, 1937:97). Gamble (2003) states that there have always been three main components to technical education. Initially, there was technical education in the form of science instruction, which was a part of the curriculum at the secondary and elementary levels and served as a basis for students’ future careers. Secondly, vocational training is a form of remedial education with real-world applications. Lastly, there was industrial education, which emphasised teaching students discipline, compliance, and consistent work habits and teaching them a trade.

Although these models of the provision were appropriate at their time, the demands of today’s complex and ever-changing workplace call for a fresh look at the goals and methods of technical education and the policies that underpin it. Education and training are essential for enhancing workers’ employability, industry productivity, and the inclusiveness of economic growth (Akoojee, 2010; McGrath & Akoojee, 2009; African Union, 2007; International Labour Organization (ILO), 2011).

According to Mummenthey (2010), the only established workplace-based training (VET) system that existed throughout the apartheid government was the apprenticeship system of the 1920s (Apprenticeship Act of 1922). At the time, only white people in South Africa were eligible to participate in this training programme. The apprenticeship system was historically the primary means through which white artisans in South Africa gained the intermediate skills necessary to work in various important industries Akoojee & McGrath (2004:29) explain that because of apartheid regulations, it was extremely difficult for people of colour to enrol in technical colleges and learn the crafts that would have been useful for them to enter the workforce. Akoojee (2004) notes that while all people had access to technical and vocational education and training, the institutions were segregated along racial boundaries, meaning that educational possibilities and the quality of training were not equal. The lack of progress in developing skills in the Republic of South Africa can be traced back in part to the apartheid era's training legacy (Badroodien, 2003). After a democratically elected government was established in South Africa in 1994, a period of an extensive reform of governmental policy began, including changes to the country's educational and vocational training institutions (Ngcwangu, 2014). As part of an effort to right these

wrongs, several changes were proposed to expand, enhance, and disperse specialised kinds of schooling.

Several pieces of legislation and publications have highlighted the growing need to reform the technical education sector in response to the growing need to provide marketable skills and competences (RSA, 2006a; RSA, 2008; GoG, 2004; NBTE, 2011). According to the Constitution of the Republic of South Africa (1996), all citizens have the inherent right to primary or secondary school education. According to the SA Yearbook (2017–2018), the country's educational system is managed by the Department of Basic Education (DoE) and the Department of Higher Education and Training (DHET). Schools that offer students real-world work experience during their high school years are called technical high schools, while regular high schools tutor students in more general subjects like reading, writing, and life skills (Allies, 2012).

In South Africa, students must attend school until they are 15 years old (Grade 9), according to the SA Yearbook 2017/2018. South Africa has two distinct tiers of primary schooling: elementary and secondary. Seven years are devoted to elementary schooling in South Africa, from grade R (reception year), roughly like kindergarten, through grade 6. There are two sub-stages within this stage: the foundation stage and the intermediate stage. At the age of six, children can enrol in elementary school. Focused on building a firm groundwork in reading, writing, a second language, arithmetic, and basic abilities, this stage spans grades kindergarten through to Grade 3. The average weekly classroom time is between 23 and 25 hours. The first-grade curriculum shifts to include instruction in the second official language. Grades 4-6 are part of the intermediate level. Languages spoken at home, foreign languages, mathematics, science, technology, history, and biology are all part of the curriculum. The average weekly class time for students at the intermediate level is 27.5 hours. Evaluation of student progress is done using a variety of achievement levels, from 1 to 7. Level 1 is the "not attained" or "failure" achievement level, while level 7 is the "most amazing achievement" level. These accomplishments can be rated on a similar percentage range from 0-100. A student's performance in elementary school is evaluated by the school in which they are enrolled. There is no end-of-elementary-school-year standardised test or official diploma granted.

South African secondary school education lasts for six years (from the seventh to the twelfth grades) and is split into two levels: lower and upper secondary. The senior primary phase, or lower secondary, consists of grades 7 to 9 (3 years). Most students enter lower secondary school around the age of 12 or 13. Home language, a second language, mathematics, natural science, social science, economics and management science, life orientation, technology, art, and culture are all part of the lower secondary school curriculum. Throughout the week, students spend 27.5 hours in class. Upper secondary, usually referred to as FET (further education and training), consists of grades 10 to 12 and is entirely elective. Official documentation of completion is required for entry. Students are often divided into two distinct academic (general), and technical (vocational) streams at the beginning of their junior year of high school. Those who choose to follow the technical curriculum are required to enrol in a specialised secondary school. In South Africa, technical education is not included in the primary or secondary school curriculum until later. Most students in academic secondary schools opt for scientific and business courses, which presents challenges for basic technical education. Conversations about secondary school reform frequently centre around raising the number of students who complete the national senior certificate (NSC) examination. This is because students' performance on the NSC examination significantly affects admission to a university. Most high school graduates are not accepted into college; therefore, they lack the education and training necessary to contribute to the economy. Other problems could include outdated facilities, too many students per classroom, and low-test scores.

Richardson (2007) identifies several causes for the difficulty caused by South Africa's lack of qualified workers. Low unemployment rates, as the author points out, are coupled with a lack of investment in training and education and rapid structural transformation. Other contributory factors include a cyclical uptick in employment in some sectors of the economy and a lacklustre training system. One of the worst legacies of apartheid as acknowledged at the introduction of the Joint Initiative on Priority Skills Acquisition (JipSA), was the suppression of Black people's access to high-quality education and training (JipSA, 2007). To fill the gaps in the government's vision, this research will examine the value of technical education for students in basic education.

As a result of the fall of the apartheid regime in 1994, the Republic of South Africa's technical and vocational education and training system was subject to extensive restructuring. As Mummenthey (2010) points out, South Africa has made great strides and progress in addressing the skills development legacy of its past since the introduction of democracy However, despite this development, one of the country's most important problems and greatest hurdles towards a better future remains the persistently high unemployment rates, especially among youths (aged 15 to 24 years).

The democratically elected government in South Africa began reforming the education and training system, including the technical and vocational education and training sector, in 1995 to ensure that all citizens had access to opportunities to develop and acquire skills. As a result of apartheid design, the 152 technical colleges that made up the country's vocational and technical system at the time were each independently regulated, managed, and funded (RSA, 2008). The democratically elected administration had the challenging task of unifying the nation's racially segregated technical colleges into a unified system that could meet the demands of the 21st century for vocational education and training. In 1995, under the auspices of the South African Qualifications Authority (SAQA), the democratically elected government took the first step in transforming technical and vocational education and training by establishing a single National Qualifications Framework (NQF) (RSA, 2008).

The government of the Republic of South Africa devised and implemented several measures to enhance the development and provision of skills because the country recognises education and skills as vehicles for economic development (Akoojee, 2008). The Manpower Act of 1951 was replaced by the Skills Development Act of 1998 (RSA, 2008). Learnerships were made possible by the Skills Development Act, which also expanded and modernised technical and vocational education and training. Since 1994, the technical and vocational education and training system in South Africa has changed significantly (Wedekind, 2010; Wedekind & Watson, 2012). For the system to adapt to the country's changing human and economic needs, the Further Education and Training Colleges Act of 2006 (RSA, 2006a) mandated a reorganisation and modernisation of technical and vocational education and training (TVET) courses. The Government White Paper 4 (RSA, 1998a) specifies that levels 2–4 of the national qualifications framework are reserved for FET programme; they correspond to grades

10–12 in the regular school system and levels N1 to N3 in the technical college system. According to the Government White Paper, the higher education and training programme's primary goal is to meet the Republic's need for qualified workers.

The Government White Paper unequivocally states that post-secondary education and training goals are necessary to meet the Republic's need for qualified workers. The stipulation of TVET in South Africa is regarded as a system capable of providing the skills and competencies necessary for employment and technological, social, and economic development. It is also seen as a vehicle for redressing injustices resulting from racialised and gendered access to skills development during apartheid (Akoojee, 2010; RSA, 1998a; RSA, 2008). Technical and vocational education and training fall under the category of "further education and training" (FET) within the South African Curriculum Framework (SACE, 2011:3), which also includes "higher education and training" (HET). Technical, vocational education and training fell under the purview of the DHET once the Department of Education was divided into the DBE and the DHET in 2009. (Simbo, 2012; SACE, 2011).

Numerous research studies have been undertaken over time to inquire into the function of TVET education, including its effect on economic growth, the effect of quality assurance on TVET, and the reform and successful implementation of the TVET curriculum in schools (Audu, Yuesri & Muhhammad, 2013; Mousakitis, 2010; Anaele et al., 2014). According to Yusuf (2006, as stated in Innocent 2013: 24), vocational and technical education leads to gainful employment in a recognised profession. It teaches you the information, mindset, and abilities you need to find and keep a job. Because of this, technical and vocational education and training have become one of the most important human resource development methods for African countries to adopt to modernise their workforce (Afeti, 2010).

A functional and adaptable TVET policy is essential for an efficient TVET system. Afeti (2009) agrees, arguing that establishing a central implementation agency for TVET is the first step in its development and provision after policy creation. The mandate of the central implementation agency should aim to standardise, streamline, and coordinate the TVET industry (COTVET, 2012). Acquisition of knowledge, competencies, skills, and attitudes essential for employment, job creation, wealth generation, and social, economic, and national development is at the heart of TVET offerings (Afeti, 1999).

From country to country, and even within a single institution, TVET can be offered at a variety of educational levels and through a wide range of delivery mechanisms (African Union, 2007). Formal, informal, or non-formal settings could all provide opportunities for students to pursue a technical or vocational education (African Union, 2007).

Many academics have been inspired by TVET's apparent importance and have devoted their time and energy to further studying it. For example, this study is currently researching the use of technical and vocational education in South African secondary schools because the researcher sees it as a means by which his country can lower its unemployment and poverty rates. This was the primary motivation for its widespread adoption across the globe. Nwachukwu and Phillip (2014) argue that Africa is the world's most blessed continent. Despite this, it is still the world's poorest and least developed continent Nwachukwu and Phillip (2014) state that several African countries have been hovering near a wide variety of economic challenges for the past three years. Poverty has expanded worldwide due to this crisis, which has hampered national development and education in the countries hardest hit by it. This prompts the question of whether the TVET curriculum is pertinent to the goals and objectives that were supposed to direct it and help it achieve its original goal of reducing poverty. The view of Nwachuku (2014:15) is

> technical and vocational education and training is an education, learning and training activity which provides knowledge, skills, and attitudes relevant for employment and or self-employment which must be put into practice by all countries for TVET to effectively play its intended role.

In accordance with this, it can be argued that all curriculum designers and implementers are obligated to see to it that the curriculum is routinely examined to maximise its relevance and responsiveness. Any justification offered for TVET education may be legitimate; however, it is crucial to consider whether its desired results are realised in African nations. TVET has been around for a long time in developing nations, as several earlier studies have shown. However, it has yet to meet its intended goal of producing creative, easily employable, self-employed graduates and acting as a genuine economic bailout for Africa's faltering economy (Osuanyi et al., 2014).

The reason could be that TVET was implemented in other nations simply because it was their policy to do so or because donor nations had mandated that it be implemented in schools, not because the nations in question truly saw a need for TVET to be implemented in schools. Hopkin (1996 in Mosothoane 2013:331) asserts that developing nations occasionally alter their educational frameworks merely to live up to the demands of rich nations that place obligations on them. They typically receive instructions on how to spend the money. The South African government has recognised that the country's education system is the cornerstone for economic growth and poverty eradication. As a result, it is making every effort to raise educational standards. Despite this government attempt, most young people lack employment after completing school or tertiary education. According to the Economic Review (2016), South Africa has one of the highest unemployment rates, particularly among young graduates who enter the labour force each year, and only half of them find employment.

This condition prompted this study to investigate factors causing such a high percentage of unemployment among young people who had acquired information, skills, and attitudes at a lower level of schooling and should be able to apply them in the workplace. Therefore, the study sought to understand if their education and training are not relevant and responsive to the changing demands and expectations of the sector or if the country lacks industries for students to work in once they finish school. These considerations inspired the undertaking of this study to investigate the significance of technical curricula at the lower levels of schooling. The research is being conducted in secondary schools because they provide the foundation for TVET education in South Africa.

The need for technical and vocational education and training arose in South Africa due to the country's increasing emphasis on fostering economic and social progress. Regarding establishing technical education institutions, the railroad and mining industries blazed the trail in different parts of the country (Barnes, 2004). A shortage of skilled workers arose as the railway network expanded, prompting railroad bosses to establish an apprenticeship programme to fill the gap (Barnes, 2004). The South African College (now the University of Cape Town) was the first institution to offer mining engineering training (Barnes, 2004). The South African School of Mines was

founded in Kimberley, and the curriculum included two years of classroom instruction followed by two years of hands-on experience. Johannesburg in 1903, the Transvaal Technical Institute now bears its new name (TTI). This institution grew and split off to become the Witwatersrand Technical College, with campuses from Springs to Krugersdorp, and Vereeniging to Witbank, all within the Witwatersrand region. The TTI joined the School of Mines and Technology in 1910; by 1922, it had become a component of the University of the Witwatersrand (Behr, 1988). These early efforts at providing commercial and technical training paved the way for a thriving South African vocational and technical education system (Barnes, 2004). South Africa's technical and vocational education and training system is heavily influenced by the country's apartheid past, as noted by Akoojee, Gewer, and McGrath (2005). Since the apartheid system governed technical and vocational education and training not all South Africans were able to receive it.

The effects of a talent gap on a nation are far-reaching. Reduced economic productivity and the inability to build a knowledge society have knock-on effects on how well a country does in the global economy (Glass & Choy, 2001; Kaplan et al., 1999). In addition, the source country's level of human capital would be depleted, thereby reducing that country's capacity to accomplish as much technological advancement as other countries due to the outflow of highly trained workers (Glass & Choy, 2001). The country's skill gap has far-reaching consequences. For instance, in the wake of the FIFA 2010 World Cup in South Africa, there was a lack of engineers, quantity surveyors, technicians, and architects stifling, infrastructural development with only 473 engineers per million people as compared to Japan, which co-hosted the 2002 World Cup and had 3306 engineers per million people (McKechnie, 2008).

Another example that reflects the poor skills development in South Africa is the electricity generation challenges. According to Business Tech (2022:1), “President Cyril Ramaphosa and civil society organisations have raised concerns over the lack of skills at the failing national power utility Eskom.” The government's unwillingness to address these issues and a lack of engineering talent have also contributed to the current state of Eskom. The power sector's scarcity of engineers looks "chronic." The number of enrolled engineering students will not rise because of the deficiencies in the current educational system and the subpar math and science test scores. The number

of registered artisan apprentices has decreased tenfold from approximately 30 000 in 1975 to an estimated 3 000 in 2006, signalling the end of the apprenticeship system. In addition to this, the Sector, Education and Training Authority (SETAS) was not contributing sufficiently to address the skills shortages (McKechnie, 2008).

Trading Economics (2022) reports that 61.40 percent of South Africa's young, unskilled Black population is unemployed at present. Because of this predicament, the country's overall stability is at risk, not just the economy. The high incidence of unemployment contributes to widespread poverty, which in turn fuels rising crime rates. It is clear from the prior debate that a lack of skilled workers is limiting the country's ability to participate fully in the global economy. South Africa ranks 60th out of 140 nations in the Global Competitiveness Report (2018/2019), which measures global competitiveness. More competitive than South Africa are smaller nations like Bahrain and Lithuania. As a result, South Africa cannot attract direct foreign investment, a means of advancing the nation's economy.

1.2. Problem statement

Skills needed to enter the workforce can be obtained through technical education and training (TET), yet it remains a challenge for most schools to produce relevant skills-based curricula necessary for entry into the labour force. Additionally, it is a layout that is built for advancing one's career (OECD, 2010a; Eichhorst et al., 2012). High-quality technical education courses in the senior year of high school have the potential to re-engage students who have lost interest in traditional academics, boost graduation rates, and facilitate a more seamless transition from school to work (CEDEFOP, 2012). In addition to the high-level talents associated with a university degree, it is vital for providing the labour force with a wide range of intermediate trade, technical, professional, and management skills (OECD, 2014a). The human development index (HDI) uses educational attainment as a primary indicator of human development. Training and technical education should enable learners to find meaningful employment; this will improve the quality of life for all (McGrath and Powell, 2016). A person's personal growth is another important goal of TET (Bonvin and Farvaque in McGrath and Powell, 2016:279). Because of this, children's exposure to technical education in elementary schools represents their first real chance to explore potential

careers. This is a great opportunity to gain experience with the most popular tools, the fundamental processes for dealing with various materials, the most typical challenges encountered in real life, and potential solutions to those problems.

Technology and work education are taught at primary schools, aimed at providing pupils with knowledge and skills in the technical area. These classes let teachers foster students' creative potential while imparting useful knowledge and skills. Given the right instruction, they can help students make the connection between abstract concepts and the technological goods they encounter every day. The technical topics have a profound educational impact because their material is focused on real-world applications. This helps both students and their parents understand that they are headed in the right direction in terms of their career choices. As a result, kids might grow up to have well-rounded personalities that make the most of their potential in life and the workplace. Technical studies foster and encourage original thought. According to teachers, practical creative activity is essential for children's healthy and natural development. It gives kids a sense of accomplishment, the self-confidence they need, the realisation that they can make a difference in the world, and the new perspectives and values they need to have on topics like work, technology, and the environment, among others. To reduce the severity of the youth unemployment crisis, it is necessary to provide them with opportunities to acquire technical skills.

Youth unemployment in South Africa refers to the situation in which people between the ages of 14 and 35 are actively seeking and are therefore available for a paid job at any one time, but cannot find such work (Cloete, 2015:514). The fact that young people constitute the largest group of new entrants into the labour market provides a compelling rationale for concentrating on this demographic. They are consequently the most susceptible to and afflicted by South Africa's persistent problem (Cloete, 2015:513). The high and rising young unemployment rate is not only a South African problem but an African and global one (ILO: 2018). A lack of work experience and, more crucially, a lack of skills valued by employers are major contributors to the youth unemployment crisis. Poverty and inequality are linked to youth unemployment (Cloete, 2015:516). High levels of inequality feed and contribute to a cycle of poverty caused by persistent unemployment. Many young people in South Africa are unemployed, making it one of the African countries with this problem. In the first three

months of 2018, more than a third of South Africa's young people (15-34) in the labour force were unemployed (StatsSA, 2018). South Africa's youth unemployment is particularly severe in terms of both structural and cyclical unemployment, as reported by the African Capacity Building Foundation (ACBF) (2017). It is having a negative impact on people's standards of living, especially in urban areas.

As a result of structural changes and increasingly evolving industrial needs, the skills required by employers are no longer a match for those held by the workforce at large. When the gap is large, the labour market goes through a lengthy adjustment period characterised by sluggish job growth and elevated unemployment. Companies have a tougher time filling newly created positions since finding employees with the necessary abilities is more difficult. The lack of new employment opportunities raises unemployment rates for all workers, even those with the necessary abilities, and discourages people from gaining such skills. In addition, structural change interacts with the business cycle to amplify and persistently peak the unemployment rate during economic downturns. Structural shifts can result in a skills gap (Autor, Dorn and Hanson, 2015). This adversely affects people's attitudes, especially among young people who have few prospects for employment and lack the technical abilities necessary to start their businesses.

Durban, KwaZulu-Natal, South Africa, is home to the eThekwini, a category B local municipality in the Umlazi region. South Africa's fourth-largest township after Soweto, Tembisa and Katlehong, Umlazi is located on the eastern coast of KwaZulu-Natal, to the west of the eThekwini Municipality. Crime, unemployment, and poverty are all serious issues plaguing Umlazi society and young people. Many of the young people in the township do not have the technical training that would allow them to find and keep good jobs. Without it, people are helpless in the face of poverty and joblessness. Consequently, more and more young people are engaging in illegal behaviour, including drug use and robbery. A well-functioning education system is crucial for many reasons, but having a well-educated populace is still the foundation for achieving sustainable development goals (SDGs). It is a way to promote a knowledge movement that takes South Africa's rich cultural history as its inspiration and makes it a driving force in the modern world. But Umlazi is deficient in this regard. There are just two

technical high schools, no technical primary schools, and two libraries in the entire Umlazi District, home to an estimated one million people.

There is a huge gap between a technical high school and a secondary high school in Durban in terms of service delivery like performance, skills, and matric pass rate. Learners in remote areas should also be afforded this opportunity; thus, the focus should not be in urban areas only. Therefore, it is expected that the government, through its provision of education, will help reduce the gap by creating a school that can offer technical education at the lower levels, especially in remote locations. The purpose of this research is to determine this.

1.3. Study Aim

The study aimed at exploring the significance of technical education in the high school curriculum in Umlazi, Durban.

1.4. The objectives of the study

The following objectives guided this study:

1. To examine the nature of technical education in high schools in Umlazi, Durban
2. To explore the importance of exposure to technical education during high school to increase the prospect of employment/self-employment.
3. To identify the challenges in the integration of technical education into the curriculum of lower grade levels in high schools in Umlazi, Durban.

1.5. Research questions

The following research questions guided the study:

1. What is the nature of technical education in high schools in Umlazi, Durban?
2. Does exposure to technical education during high school increase the prospect of employment after leaving school?
3. What are the challenges in the integration of technical education into the curriculum of lower grade levels in high school in Umlazi, Durban?

1.6. Purpose and rationale of the study

The purpose of this study is to ensure that individuals have access to the most up-to-date information, it is necessary to have a TVET system that is both flexible and adaptable (UNESCO, 2010; Afeti, 2009). The necessity for research to inform policy formulation and improvement is a topic touched on by Lauglo (2006), who argues that a reform process in one country might benefit greatly from a comparative study of policies with the same goals and objectives in other countries. The bad societal view of TVET institutions in some nations may very well be attributed to inadequate TVET policy in those countries, lowering the sector's appeal and hence affecting the overall quality of the education and training system in those countries (Boateng, 2010).

There is a dearth of a high rate of technical skills among the youth and other community members in the Umlazi district. The lack of opportunities for technical education at the primary and secondary school levels is a major issue for the youth of Umlazi. The consequences of a high school dropout rate are felt not only by the students but also by society. The study's goal is to evaluate the effectiveness of the South African National Curriculum in providing students with a foundation in technical education at the end of Grade 12. This research aims to examine why the Umlazi district's basic education programme should include technical education. It also contends that the substance of both academic and technical education should be tied to the goal of getting students ready to enter the workforce, continue their education, or strike out on their own. To close the gap and solve the skills shortage among the young of Umlazi, it is hoped that the study will encourage educational policy makers to implement technical education curricula for learners in basic education, particularly in townships and rural areas. The research is significant because it may be used to guide the formulation and refinement of policies in a South African setting.

1.7. Structure of Research

The structure of this research is as follows:

Chapter 1 presents the introduction of the study, which includes the problem statement, research objectives, research questions and value of the study. **Chapter 2** constitutes the theoretical framework and literature review on technical education

skills. **Chapter 3** consists of the research methodology. It describes the data collection method, the target population, and data analysis techniques. **Chapter 4** presents a discussion of the study. While **Chapter 5** constitutes a summary of the study, conclusions, and recommendations.

1.8. Conclusion

In this introductory section, the chapter provided a broad overview of the study's context, which is situated within the development and contemporary state of TVET education. Following this brief overview of the effects of skills shortages in SA, the study's overarching goals, and research objectives are introduced and the impetus for and breadth of the research are explained. This research aimed to shed light on the challenges associated with the lack of well-defined leadership traits in the context of South Africa's new TVET school sector dispensation to improve the implementation of lasting curriculum improvements. The purpose of the next section is to establish a theoretical framework for the study by reviewing relevant literature.

Chapter 2

Literature Review and Theoretical Framework

2.1 Introduction

Technical education and the South African training system underwent drastic reforms at the dawn of independence in 1994. The dissolution of the apartheid regime held better prospects for the previously shunned groups of society, but high rates of unemployment and low-level skills persisted among the formerly discriminated groups. This chapter aims to provide a detailed review of the literature and theoretical frameworks of technical education as well as basic education. The chapter will start by looking at the concept of technical education from a global and African perspective. Secondly, basic education will be investigated on a global scale before being explored from the South African perspective. The impact of technical education on basic education and its importance will also be explored. The chapter ends by exploring the legislative framework and the theories that govern the subject matter.

2.2 Technical Education

Technical education entails the training of technical personnel so that they initiate, facilitate, and implement a nation's technological development while at the same time creating a basic awareness of technological literacy in the larger population (Uwaifo, 2010). This leads to the self-reliance and sustainability of a country. Technical education ranges from mechanical and automotive technology, metal technology, building and woodworking technology, and electrical and electronic technology (Zifere, 2019).

The term 'technology' mostly conjures up the thought of digital/information technology; however, technical education covers a lot of things that include engineering, management, architecture, planning and applied sciences (Mothalo, 2017). So, it aids students to prepare for a career that involves the application of scientific and technical principles as a way to create solutions. Thus, technical education helps to understand the basics of how things work and are manufactured or designed from the ground up.

2.2.1 Global perspectives on Technical Education

There is a general confusion between technical education and vocational training, and sometimes the words are used interchangeably in the literature. However, according to the U.S. Department of Education, technical schools are more focused on the theory and science behind an occupation, whereas vocational schools take a more hands-on approach to teach the skills needed to successfully do a job.

Across the United States, technical and career education programmes are offered in more than 11 000 high schools, several hundred vocational-technical high schools, and about 1 400 area vocational-technical centres (Lister, 2016). In the United States, technical education by the early 1990s had started to get more attention following the realisation of the world needed more technically prepared personnel. Despite the colleges, technical institutes and skill centres, it has been deemed necessary for technical education to fit to start earlier in high schools to slowly condense the challenges the students may fa(Lister, 2016). This has led to more than 11 million secondary and post-secondary career and technical education students in the United States (U.S. Office of Educational Research and Improvement, 2018).

In the United States, the subjects that are commonly associated with technical education entail entrepreneurship, trade and industry, that is, computer numerical control technician, automotive technician, carpentry, agriculture (food and fibre production) and technology (computer-based careers) (Adelk, 2017). These are usually offered as supplements to work-based experiences like internships or apprenticeships. However, following the changing work environment, the need was found to create a foundation of technical education from high school onwards. This enables high school students to be competitive enough and be employable after graduation, either full-time or while continuing their education or training (Eichhorst et al., 2015).

Some studies have summarised the differences that exist between Western and Asian education. The studies identified that in the western world, people acquire an education to get a job, whereas in the Asian world, for example, in China people study to be educated (Lister, 2016). Thus, to be educated, there is a need to acquire skills that work in that precise work environment at a certain point in time; hence, technical initiatives

have been embraced more in Asian countries than in any other country. Singapore was found to adopt the same stand as the country saw the need to equip its population with competencies that are hard to change or replace even if the world changes (Lister, 2016); thus, seeing technical education as the right move for its people.

However, despite the popularity of technical education in Asian countries, challenges could also be identified, especially in the South Asian region. Technical education has been found to be incapable of offering sufficient solutions to the problem of the labour market (Tushar, 2013). Despite governments giving their full attention to the initiative, technical education is yet to receive the anticipated full recognition and importance. The misconception of vocational and technical education being a second choice after general education is still strong in South Asia as it is in some of the European states. A study by Eichhorst et al. (2015) revealed that technical education is for those without the knowledge of general education and low-income earners. Three out of four (75%) European citizens were found to agree on the fact that students who possessed low grades were more inclined toward technical and vocational education (CEDEFOP, 2017). Hence technical education though more accepted in the European states was met with some misconceptions.

In Europe, the more southern-oriented countries do not give as much importance to technical education as they give to general secondary education (CEDEFOP, 2017). Studies concluded that there is some image problem when it comes to technical education, considering that most Europeans acknowledge that general secondary education is better than vocational or technical education. This, however, does not entirely conclude that they do not recognise the positive attributes of technical education, especially starting at the secondary level. Countries like Malta, Finland, Czechia, the United Kingdom and Italy contended that technical education moved their economies forward, whereas France, Hungary, Belgium and the Netherlands argued technical education added nothing to their countries' image (CEDEFOP, 2017; Milmeister, 2022). Thus, the appreciation of technical education simply follows a north or south logic.

The term 'basic education' already implies that education is responsible for the acquisition of basic knowledge or skills native to a certain geographical area. Biao (2018) views basic education as education provided with the aim of enabling

individuals and societies to acquire an initial understanding of the world they live in and its basic components, including the immediate environment they would be residing in. Biao (2018) further illustrates that basic education supplies individuals with traditional literacy skills, that is, reading, writing and numeracy skills. Basic education also entails equipping the local inhabitants with the history of their existence and a basic scientific understanding of how the world functions.

The International Standard Classification of Education notes that basic education consists of primary education and lower secondary education (Lister, 2016). In other countries, basic education also includes pre-primary education and/or adult literacy programmes. So, basic education refers to the entire range of educational activities taking place in numerous settings with the aim of meeting basic learning needs. Universal basic education has been regarded as the main priority for developing countries and is the focus of UNESCO. It is a component of millennium development goal number 2, which aimed to achieve universal primary education by the year 2015. Basic education has been found in various studies to benefit a country's economy, public health, democracy, human rights, and demography (Manashete, 2016).

The very first basic education was for a human being to learn from what the earth had to offer as its new inhabitant, considering there was no other human being to learn from (Biao, 2013). So, techniques were developed to conquer the challenges that nature had to present, which included hostile environmental conditions. So, from time immemorial, the issue of basic education has involved equipping one with the skills deemed basic for one's survival and the continued survival of inhabitants of a designated environment. While western countries benefitted more from their basic educational structures, this cannot be said of most African states. Basic education in Sub-Saharan Africa has been found to be failing to meet the expected results (Biao, 2018). To begin with, the population with access to basic education is small; that is, one out of every four primary school-age children receives a basic education, and only half of this population completes secondary school (Evans and Acosta, 2021). Secondly, basic education has failed to deliver the expected socio-economic development, hence being deemed weak in terms of both national and international standards. Thus, traces of poverty continue to exist in sub-Saharan Africa because of the kind of basic education that exists.

In Africa, efforts to measure the quality of basic education have revealed a greater number of students who possess limited numeracy and literacy skills, even after attending school for many years (Bold et al., 2017; Adeniran et al., 2020). This has been dubbed by the international community a learning crisis. The past two decades have witnessed initiatives to enhance the educational system in Africa, but the changes were superficial (World Bank, 2018). It is worth noting that all societies globally were founded upon some form of educational system and learning, which got diluted by the changing world and sociological factors. However, in most parts of Africa, though their basic education is influenced by that of their previous colonisers, traces of traditional and indigenous African education exist, and this has been found to be more effective for culture preservation rather than employability (Amadioha and Akor, 2019; Sagepub, 2017; African Studies Centres, 2016).

Schools are the primary means by which societies impart basic education to their populations, though in some developing and war-torn countries, this is next to impossible (Akor, 2019). Unlike in the countries in the North, where enrolment in basic education is 96% for primary education and 85% for secondary education (OECD, 2015; Teferra, 2015), this is not the same case in developing countries. Thus, access to basic education is a dream for many, especially at the secondary stage (UNICEF, 2016; United Nations, 2015). Hence there is a mismatch between the knowledge the students possess and that needed in the labour market. Thus, it becomes a point of concern if most African states can handle and benefit from technical education in their educational system if basic education seems to be insufficient and unattainable to many.

2.2.2 African perspectives on Technical Education

The African continent has been characterised by slowness to change and rigidity. Even when it is faced with beneficial change, it mostly follows in the footsteps of western countries (Kamate, 2020). This study focused on South Africa as a part of the African continent because Africa is marginalised in the world's economy and its educational policies mostly do not match the demands of the labour market, posing problems (ILO, 2018). Looking at the issue of technical education in the African context, contrary to the assumption of technical education advocates, empirical data shows there is a higher return on investment in secondary academic education

compared to technical secondary education (Kamate, 2020) because technical institutions are producing a workforce that is exceeding the requirements of the labour market, hence leading to overproduction of technical graduates, low wages, and unemployment (Zanzu, 2017; Kamate, 2020). This is evident in countries like Mozambique, Niger, and Somalia.

A Conference of African Ministers of Education held in 1976 in Lagos, Nigeria, was the first to adopt the introduction of vocational and technical education in secondary education, which was recognised as a binding policy across the African continent. The consensus was for African states to provide a novel type of education that equipped the students with a dynamic workplace. Thus, breaking the unemployment barriers as well as the theory and practice. However, in Nigeria's capital, technical education has encountered various drawbacks and challenges. Its impact on technical institutions and high school education has not reached the expected level. The training of technical personnel has witnessed formidable challenges in the country, and these range from poor funding to inadequate facilities, inadequate human capacity, brain drain and finally poor staff training and retention (Uwaifo, 2010; Nakamba, 2016). Also, the issue of defective curricula, the traditional teaching approach, poorly equipped laboratories, and poor provisions for training prospective technologists have posed challenges (Atanga and Henri, 2022). Thus, following this, on the African continent, it is more theoretical than in practice, the benefits of technical education are assumed to be more practical than theoretical. Hence it was such scenarios that prompted the carrying out of this study.

In most countries in Africa, when it comes to the design of the curriculum in technical subjects, the challenge is the shift from academic subjects to paradigms in technology (Mandishe, 2019). This has been witnessed in countries like Nigeria and Zimbabwe. The slow pace of industrialisation and technological growth in Zimbabwe and Nigeria can be attributed to the wider gap that exists between science and technology following the inability of technical education programmes to utilise scientific ideas to promote technology (Uwaifo, 2010; Mandishe, 2019). Hence the need to transform the technical education curricula in these countries. So as much as technical education may be the talk and solution to 21st-century challenges in industries and the workplace, most African states still have miles to go to catch up to this.

More so, the political atmosphere in many African countries has been found to have a bearing on the educational system of their countries. Technical education programmes and their effective implementation in high schools are neglected, for example, in Zimbabwe, Botswana, and Nigeria (Atanga and Henri, 2022). Technical educators have faced a barrier in convincing lawmakers to allocate useful resources and money toward technical education development and implementation (Atanga and Henri, 2022). Despite the participation of technical educators in many of the governance forums, there is usually reluctance and rigidity on the part of governments. Hence, the countries continue to lack proper technical education facilities and remain technologically backward and dependent nations.

Furthermore, looking at Cameroon, the Democratic Republic of the Congo (DRC) and Burkina Faso, the general education of these countries has managed to keep up with changing trends, but technical and vocational training remains a challenge (Kamate, 2020). The solutions proposed by the ministries that are in charge fall short of implementation. Opportunities for the promotion of learning seem to be plenty; however, there is a lack of preparation among participants in the sub-sector. The high costs of internet connections to push forward and meet some of the technical education requirements and the lack of trained personnel for some of the online tools have rendered technical education ineffective. Hence, basic education continues to strive over technical education (Kamate, 2020).

Agenda 2030 and Agenda 2063 for Africa focus on technical and vocational education and training (TVET). This is also the aim of the Continental Education Strategy for Africa (CESA 16-25), which strives for the enhancement of technical and vocational skills' quality (Kamate, 2020). This is a move to ensure that the acquisition of technical and vocational skills produces more employment, decent jobs and entrepreneurship (Kamate, 2020). A study conducted in sub-Saharan Africa (SSA) to ascertain the effects technical and vocational education and training had on industrial performance between the years 1980 and 2018, found that there was a strong relationship between TVET and industrialisation measures and a negative effect of general secondary education on industrialisation in SSA (Atanga & Henri, 2022). Hence the need to put more emphasis on TVET in the secondary educational system to meet future industrial needs. Thus, it is against such a background that the current study seeks to explore

the significance technical education possesses in basic education, utilising the high schools in South Africa.

2.3 Basic Education in South Africa

2.3.1 Historical overview of the educational system in South Africa

The governance of South Africa's education before independence was characterised by a top-down approach, meaning that educators, parents, learners and communities were not part of the decision-making board when it came to matters pertaining to the school and education (Motimele, 2005). The principals and inspectors were the decision makers and following that, the educational system of South Africa was dominated by their colonisers; the whites were the decision makers and they made policies that served their interests (Patel et al., 2011). The transformation and reform of the education landscape in South Africa came after independence, also influencing the "government" of the school, which was established in terms of the South African Schools Act No. 84 of 1996. The Act set policies and rules that governed schools and monitored the implementation of the rules.

In South Africa, the apartheid system of governance created divisions in the education system. This system mostly disadvantaged the rural areas (Ndamase, 2004). There was a lack of financial support for the rural schools, as well as a scarcity of learning and teaching material. The educators themselves were ill-equipped and lacked the relevant knowledge to teach. The education facilities were not adequate, with learning sometimes being conducted in open spaces (Ndamase, 2004; Yaka, 2005). Such a scenario was made possible by the introduction of the Bantu Education Act No. 47 of 1953, later revised to the Black Education Act of 1953, which confined the majority of black South Africans to the impoverished Bantustans (Zwelandile, 2016). Thus, South Africa's rural schools were identified by infrastructure that was not conducive to learning and unqualified personnel. Hence this meant many of the discriminated Africans were denied basic education.

This education system in South Africa during the apartheid era aimed at equipping the homelands' communities with an inferior education that prepared them for inferior roles (DoE, 2002; Zwelandile, 2016). The dawning of independence targeted such injustices, advocating for equal basic education for all. Though there was an increase

in black African enrolment in educational structures that were once dominated by whites, there are still signs that show the crisis in basic education persists. There has been an increase in poor grade 12 output, which is a clear indication that there is a need to improve the quality of delivered education (Modisatile, 2012; Zwelandile, 2016). The enrolment for grade 1 students is high, but only a few make it up to grade 12 and are even able to attain results that qualify them for university entry. Hence the need to not only focus on quantity but also the quality of education.

In addition, most of the schools in South Africa have been characterised by overcrowding in classrooms, an unbalanced ratio of teacher to students, especially in the public schools, unskilled teachers, violence in schools, high dropout rates, and high absenteeism of teachers, especially on Mondays and Fridays (DoE, 2010; Mgibisa, 2009; Mundy, 2011; Zwelandile, 2016). However, it is worth noting that despite all this, there has been an increase in the number of educated black South Africans, and not only in basic education but also in vocational and tertiary education (Macha & Kadakia, 2017). The South African government continues to strive for the improvement of the educational sector to ensure that its population is equipped not only with a basic education but also internationally recognised qualifications. It is not hearsay that South Africa has improved to the point that it houses many foreign students in its technical institutions and universities.

2.3.2 Curriculum design and development

The past two and a half decades saw the South African national school curricula undergoing changes and revisions (Van Oort, 2018). Approaches to curriculum design and methodologies have been readdressed following their ineffectiveness in the past. In fact, the world over, changes in school curricula have been implemented to meet international and national standards and socio-political, economic, and technological changes (Van Oort, 2018). School curricula are not neutral, as they follow the changing environment to be relevant; hence, in South Africa, they have undergone different phases in their design and development since 1994.

The new and revised National Curriculum Statement (RNCS) document (2002) was a move to do away with the injustices of the divisions caused by the apartheid system and give teachers and other disadvantaged groups the power to be curriculum

designers (Zweladile, 2016). However, the teachers were not up to the task and were not too willing to partake in the development of the curriculum. The enactment of Curriculum 2005 (C2005), which followed, was meant to guide the South African educational system into the twenty-first century, making its design and implementation of the curriculum competitive and accessible to all (Zweladile, 2016). The advent of C2005 was intended to compact the gap between education and training; hence, the curriculum was to be set taking cognisance of this gap. The National Qualifications Framework (NQF) was to be the medium through which this was to be accomplished. The C2005 also provided for the formation of several committees that performed various curriculum developmental functions.

The National Curriculum Statement: Grades 10-12, which includes 29 subjects, and designed by subject specialists, guides South African education in the twenty-first century (Macha & Kadakia, 2017). This was arrived at after the draft versions of the subject statements were published for comment in 2001 and then revised considering the received comments. In September 2011, the South African Minister of the Department of Basic Education, Minister Angelina Matsie Motshekga, in terms of sections 3(4)(1) and 7 of the National Education Act, 1996 (Act No. 27 of 1996), and after consultation with the Council of Education Ministers, approved the National Curriculum Statement: Grades R-12. Now the setup and curriculum of South Africa are divided into primary schools (grade R plus grades 1 to 7) and secondary schools or high schools (grades 8 to 12) (Reygan & Steyn, 2017). The Department of Basic Education (DBE) now oversees elementary and secondary education. On the other hand, the Department of Higher Education and Training (DHET) oversees post-secondary-level education, which includes academic institutions and post-secondary technical training (Macha & Kadakia, 2017; DBE 2021).

The South African curriculum is devised in such a way that seven subjects are the minimum, with four of those being mandatory, including mathematics. This has put South Africa among the sub-Saharan African countries with high literacy rates (DBE, 2021). Thus, since independence, South Africa’s government has done a lot to change the country's curriculum, making it beneficial to all and internationally recognised.

2.3.3 Benefits of basic education

The education which emphasised the need for racial differences to cement white supremacy was the basic education of the colonial era. Hence, basic education has now shifted the focus toward recognising equality and the preservation of mixed South African culture (Reygan & Steyn, 2017). South Africa, being a rainbow nation, is embedded with various cultures and histories. The basic education that exists, besides equipping the students with basic literacy and numerical skills, also teaches South African history, the cradle of the nation and the need to preserve that same culture. Hence, basic education in South Africa plays a paramount role in history and culture preservation.

The diversity of South African basic education has earned it international recognition. South Africa is characterised by a diversified population as well as diversified approaches to education to cater to all (Reygan & Steyn, 2017). Hence, the basic education of the country, including its universities, is internationally recognised and it is not surprising that it has also become a point of interest for many foreigners. Since the dawn of independence, South Africa's education system has managed to give those once shunned the professional standing to which they aspired. The basic education system has managed to mould professionals who fit into the different work settings of South African industries. It has led to personal, national, and global development.

Moreover, the South African basic education system has managed to empower and reduce the poverty rate among black South Africans. Though there is still room for improvement in the level of education and the government's intervention to get more South Africans educated (Filmer et al., 2020), it is worth applauding the change in the plight of black South Africans. After the racial boundaries for basic education were removed, some of the black South Africans were employed in previously designated white stations as the level of education was at par Though the South African basic education system must adapt to the changing world through modernisation, the poverty ratio of the South African population has been reduced. Basic education has also created students ready to face tertiary education and acquire the highest qualifications the educational system has to offer.

2.3.4 Challenges of skills development in South Africa

There are talks and initiatives in the South African context to enhance and develop skills that ensure the competence of citizens in the twenty-first century; however, the development of relevant skills is still a challenge in South Africa. Initiatives have been taken in the educational sector to vocationalise secondary education and include more technical subjects in the high school curriculum (Sithole, 2019). However, despite this noble move, studies have shown that the introduction of vocational and technical subjects has proven to be expensive and lacks proper facilities and equipment (Allais, 2021 South Africa lacks the materials to teach vocational subjects; therefore, the desired skills targeted by such an initiative can only be taught in theory.

In addition, education in South Africa is compulsory up to grade nine, and the statistics have shown an increase in the number of dropouts and the inequality between male and female students (Sithole, 2019). This has created a population of young individuals who do not possess the basic education to pursue technical, vocational, or tertiary education. Thus, they are not able to acquire the skills which make them employable or self-employed. The lack of recognition of the girl-child as capable of being educated to the same level as the boy-child and capable of acquiring technical skills, technology skills and being educated in science subjects, has crippled the work industry and deprived them of the potential that would have been exhibited by the females if they were given the chance (Sithole, 2019). Thus, it is also this inequality that affects the South African skill development initiative.

South African schools have struggled to teach basic skills, which include reading and writing. So, the early development of young children has been a burden itself (Allais, 2021). This presents a predicament considering that the early years of education are the foundation for moulding the students for the more challenging tasks to come. Incompetence and lack of skills of the educators or teachers in the fundamentals of education automatically imply their lack of expertise in conjuring up education beneficial to the skill development of the students. Hence, the inadequate training of the educators themselves and their lack of extensive knowledge have presented negative outcomes to the skills development of the country.

The policies of the Republic of South Africa are geared more toward the expansion of the industry than the expansion of the skills base (ILO, 2019). Striking a balance between the improvement of the labour market and upgrading the relevant vocational or technical programme is a challenge. Thus, transferable skills from the vocational or technical institutions to the industries are lacking considering that the policies prioritise the industries at the expense of the skills that influence the work setting. So, the skills produced fall short of the dynamic occupational and workplace requirements. The government of South Africa has also been found to be less supportive in terms of financial and resource aid that can improve the skills development of the locals (ILO, 2019). Hence, it is such scenarios that inhibit skills development in South Africa.

Due to giving less importance to research on the South African skill system, policies and initiatives have addressed the wrong problems. The analysis of South Africa's skills system should be more transparent and given better attention to attract public investment and better policies in the future (Macha & Kadakia, 2017). Research should also be given to levels below tertiary education to identify ways to harness skills beneficial to South African industries. There is a great need to identify the training and skills needed to be competent in industries and hence capitalise on such knowledge to develop relevant skills at lower levels of education, that is, from secondary or high school education (ILO, 2019, Allais 2021). Thus, research into South Africa's skill requirements is critical in order to identify relevant skills, that South Africa currently lacks.

The improvement of the quality of TVET programmes and expanding them to address the mismatch of skills in the South African economy is a huge challenge. The low quality of programmes on offer has led 23% of young South Africans between the age of 15 to 34 years to attribute youth unemployment to inadequate education and 60% attribute it to not being able to attain a degree (British Council, 2018). This has diverted attention from the real problem of not giving adequate attention given to skills development, especially for those still in secondary school, who opt for vocational or technical colleges instead of universities (ILO, 2019).

2.3.5 Technical Education Contents of the South African Basic Education Curriculum

South Africa's high unemployment rate necessitated a redress of the educational system, and technical and vocational training (TVET) emerged as the ideal solution as it was also a strategic move toward the country's political and economic stability (Tandwa, 2015). In 2014 alone, there were 50 public and 291 private TVET colleges throughout South Africa (DHET, 2015). This then cemented the idea of equipping secondary school students with technical knowledge to lay the foundation for the future technical endeavours they wish to pursue. South African secondary education lasts six years, from grade 7 to grade 12. Up to grade 9 is mandatory, and the remaining grades 10 to 12 are not compulsory. Following the high dropout rate before grade 12, the South African government saw the need to introduce some technical subjects in basic education to equip the dropout students with some skills they could use for survival.

More so the education system of South Africa allows students to choose their career path in grade 10, for those who choose to continue with their education. Though the process is more like streaming due to a child's potential there is academic (general) or technical education. Students who choose technical education are then enrolled in a technical secondary school. As Tandwa (2015) notes, there is no difference in the number of subjects learned in academic and technical schools, that is, seven. However, it is worth noting that even in technical education, four of the subjects are mandatory and this entails two official languages, mathematics and life orientation. The remaining subjects are then at the student's discretion considering the path they want to pursue in higher education or life.

At present 29, official subjects are offered in secondary school following the move to add technical courses or subjects. Technical science subjects form the main part of technical education. These help students focus on mechanical technology, electrical technology and civil technology (Branson, 2018). This has been found to enable the learners to integrate scientific knowledge in a more informed way into their subject offerings in technology. Civil technology has been found to develop the learners' skills from grades 8 to 9, which enables them to get a national senior certificate for their career path or enrol at a college or university for further education.

In addition, there are also courses like electrical technology, which equips students with a strong foundation in electronics and digital principles, and mechanical technology, which entails automotive technology, that is, fitting and machining or welding and metal work (Buthelezi, 2018). Digital technology is also part of the technical curriculum, with knowledge of computers, applications and internet technologies used to teach users to create, communicate, store, distribute and manage information and solve real-life problems using appropriate tools and techniques (Branson, 2018). Thus, it is the introduction of such technical courses that have resulted in a slight drop in the unemployment rate in South Africa.

2.4 Importance of Technical Education

Technical education plays a pivotal role in the development of a nation by creating skilled manpower, enhancing productivity, and improving the quality of life (Atagana and Henri, 2022). Technical education aims to equip individuals with the skills and knowledge that make them employable and competitive in today's advanced age of science and technology. So, the need of the hour is the production of skilled and knowledgeable manpower that meets both societal and industrial needs (Atienza, 2022). Thus, the acquisition of technical education is necessary for a country to experience rapid industrialisation.

It is a known fact that technical education aims to equip individuals with skills that match the labour market's demand to increase the productivity of individual workers, which will undoubtedly result in the development of the national economy (Atagana and Henri, 2022). The target of exposing individuals still in secondary to technical education has resulted in a reduction in youth unemployment as some were equipped with basic life survival skills even though they could not find employment (Atagana & Henri, 2022). This is evident in Kenya, where in addition to its youth becoming self-employed, technical education has managed to make the economic and political climate more sustainable than it previously was (Atagana & Henri, 2022). Hence, technical education and training provide answers to the political and economic challenges of countries.

In addition, technical education gives individuals an added advantage. Individuals who desire to pursue careers in law or medicine, for example, would be at an advantage

over those who have never experienced it (Atienza, 2022). Moreover, considering the ever-changing world and work environment there are no longer guarantees that some of the jobs or trends will continue to be operated by humans, as machines are taking over and are considered more effective (Excelsior, 2015). So high-quality traditional or basic education is applaudable but, having a technical education background to some extent guarantees employability or self-employment, despite how the work sphere transforms (Atienza, 2022).

Industries, mechanised systems, as well as scientific research centres the world over have proven beyond doubt that the use of bare hands is a thing of the past and machines and technological devices are the new norm of human societies (Agenda 2016). Thus, the modern age demands technical education and being in possession of one makes an individual an asset to the current world. Technical education targets the needs of the industry and transforms with the industry to always deliver, thereby continuing to produce knowledgeable technocrats in the present era and the eras to come (Agenda 2016)

Technical education also promotes productivity and self-reliance. It gets rid of the dependence syndrome that usually comes with unemployment as it champions entrepreneurship (Manikandan, 2016). Skills acquired in technical education courses precede experiences of just doing academic homework or assignments. They teach the practical side of applying the knowledge, making one more pro-active and self-reliant. So, this gives an individual sufficient leverage to even engage in entrepreneurship. Also, while there is a misconception that technical education and schools are cheap and rate second to traditional or basic education, the reality on the ground is that graduates or those who attain any qualification in technical education are often better-positioned career-wise (Gambhi, Wadhwa & Grover, 2016). Evidence has shown that many students of basic education, after completing their academic schooling, are faced with the challenge of real-world job searching as they lack real practical skills, a case which was found to be different with students with technical qualifications (Gambhi et al., 2016; Manikandan, 2016).

Furthermore, it is worth noting that technical education focuses on the person and a specific job. It does not teach broad, sometimes irrelevant subjects found in traditional education (Manikandan, 2016). Technical education does not leave a student to figure

out what to do with the qualification he/she has attained, but it does pave a clear career path to a specified trade. Studies have found that technical schools offer better career advice than any other school and to top that, most of them are linked to certain industries waiting to employ their students for those specific skills relevant to them (Manikandan, 2016). Hence, it is those connections that technical schools possess that enable them to play an active role in the career development and building of their students (Carruthers & Jepsen, 2020).

In any country, technical education has been found to play an important role in human resource development. Its ability to produce a skilled workforce has made it more popular, especially in developed countries (Ahmed, 2020). A close relationship has been established between the technical or vocational education system and the socio-economic development of any country. Looking at Bangladesh's educational system, which is divided into general education, madrasah education and technical education, more emphasis is now placed on technical education considering the country's government and institutions have ensured that it offers excellent employment opportunities at home and abroad (Ahmed, 2020).

Germany, France, Australia, Japan and Sweden have also been seen to pursue technical and vocational education and training considering its benefits to their economies. Thus, following the preceding importance of technical education, the aim of this study is to unveil the importance of technical education, when implemented in high schools in the South African context.

2.5 Impact of Technical education on Basic Education

Technical education has brought great transformation to the educational system, the workplace environment and the whole world in general. For the longest time, formal education was associated with humanities or fields like engineering, medicine and mathematics (Atienza, 2022), thus they were labelled as the measurement of an educated person. Hence, the idea of sitting in an office and doing purely intellectual work was more acceptable and received better than fields that involved direct physical labour and practical application of one's skills, as presented by technical education (Atienza, 2022). However, reality has dawned that the world can no longer exist outside the bounds of technical education, despite it once being attributed to being the

specialty of those who could not afford to attend a real university or lacked the brains for academic knowledge. It is now even beginning to dominate as part of the basic curriculum at lower levels of education, to equip students for the future from an early age. Thus, technical education has become the norm, though its implementation in many spheres of society still proves to be a challenge.

2.5.1 Challenges in implementing technical education in Basic Education

A plethora of benefits are attached to technical education, as alluded to before; however, the literature has also revealed that introducing the curriculum of technical education in basic education was met with various challenges. Funding and a lack of facilities are two of the primary reasons many institutions cannot afford the implementation of technical education (Chakravarty & Gupta, 2020). Technical education, though beneficial, requires facilities for practicals and a lot of resources. Studies in Nigeria and Zimbabwe have shown this to be a barrier to fully adopting technical education in secondary or high schools (Gwaa, 2017).

Most schools in Nigeria and Zimbabwe were found to be state-owned; hence, they relied predominantly on their governments for funding, which of course did not come through. So, despite the institutions' zeal to be technical in nature, these two countries' respective governments did not provide the necessary funding to make the technical education implementation in basic education a success. Findings again disclosed that because those institutions that were privately owned depended more on the fees charged for operation, they could not afford to entirely fund the requirements of technical education or provide the required facilities, hence the idea was more prevalent in theory than practice (Gwaa, 2017).

Retaining and training the staff for technical education has been another major challenge. Academic staff training is something of a norm that is done continuously to ensure that educators are up to date on the new trends and can produce the expected outputs (Chirairo, 2018). However, in most African institutions, educators have been found to possess more diplomas and higher national certificates, therefore they are lacking the necessary technical knowledge. Moreover, the required technical education training, which is lacking in most African states, has to be done overseas. Chirairo (2018), identified the challenge as lying in the fact that education locally is

cheaper than overseas; hence, many people cannot afford the experience of being trained outside of their immediate country. Thus, Africa, lacking the literature, facilities and qualified personnel, and facing socio-economic distractions to progress, cannot afford the luxury of overseas education, which is one of the answers to technical education knowledge. Hence, it is hard to introduce or implement something that one lacks knowledge of.

A study from India on implementing vocational or technical education in secondary schools revealed that a lack of knowledge about what technical education really entails makes it unpopular with both the students and their parents (Chakravarty & Gupta, 2020). Following the educators' lack of technical education knowledge, its introduction was well received by a few students who chose its subjects or courses. The school boards of India, as per the study, attempted to introduce technical education, but it had less reach or coverage, including integration with the formal academic system. The lack of proper infrastructure for technical education intensified its dislike by educators, teachers, and parents, hence its lack of the intended impact (Chakravarty and Gupta, 2020). Thus, from this study, it is evident that people need to understand something better first to be able to implement it and there is a need for professionals who excel in the field of technical education.

Research has also shown that most people or communities still value the conventional streams of education or traditional education (Chakravarty & Gupta, 2020). The majority of individuals are not always welcoming of changes and usually put up barriers without actually understanding their benefits. Inadequate motivation and career guidance to make known the importance of technical education make its full acceptance and implementation a challenge (Omar et al., 2020). The educators themselves have shown resistance to change and an unwillingness to adopt technical education. Studies have shown that this resistance is not because the educators or teachers dislike technical education but it is partly the fear of learning a new teaching tool, which they view as a risky approach they are not adequately trained or ready for (Patel, 2021; Hanapi et al., 2015). Thus, if teachers do not believe technical education is important, it will be difficult to implement and will not be accepted by students and the greater community. In addition, the issue of rigidity compelled a lack of student motivation and the acquisition of professional technocrats. A study in Malaysia noted

that parents' or the community's background influenced the success of the implementation of a new initiative. According to Dyrin et al. (2021), parents opted for their children to acquire a degree over vocational or technical education, hence seeing no need for them to waste their high school years on technical education or training. Again, because most of the population does not know what technical education entails, there is a shortage of trainers to conduct these programmes (Ismail & Abiddin, 2014; Hanapi et al., 2015), not just those with theoretical knowledge or just having the textbooks with the curriculum, but trainers or educators who possess real-life experiences and knowledge (Omar et al., 2020; Ministry of Education Malaysia, 2013; Ismail et al., 2018). Thus, without this being corrected, the issue of technical education's positive impact will remain in its infancy stage.

2.6 Overview of Policies and Legislation impacting skills development in South Africa

Skills development plans are designed to support the aspiring country grow its economy as well as create employment. Skills development also targets social and national development; hence, there is a need to develop strategic plans, including the introduction and implementation mechanisms. The legislation has been identified as one tool that the South African government can utilise to achieve its set goals and objectives (Nomahla, 2017). Hence, legislation and governmental or institutional policies can either enhance or diminish skills development among South Africans.

2.6.1 South African Qualifications Authority Act No. 58 of 1995

The South African Qualifications Authority (SAQA) was established to oversee the restructuring and development of education and training in South Africa. SAQA can be viewed as the oversight body of the National Qualifications Framework (NQF) and exists to uphold its values and quality character (Reynolds, 2017). The aim of SAQA is to ensure that each learner benefits from a national qualification framework, which also contributes to the development of the economy. The SAQA Act sets standards to guarantee a high quality of education and training in South Africa and also provides various entry, exit and re-entry points (SAQA, 2020). The NQF was formulated to achieve this and avails a framework that assures quality learning at school, work, or home, regardless of age or status. SAQA endorses lifelong learning for all citizens and

considers the future and the extension of skills development. Thus, SAQA objectives through the NQF are to integrate the national framework for learning, facilitate access to mobility and progression within education, and training and pave career paths for South African citizens. This would enhance education quality, redress the discriminatory educational structure, and create employment opportunities.

2.6.2 The Skills Development Act 97 of 1998

The Skills Development Act 97 of 1998 forms part of the legislation that strives for unemployment reduction, a compact skills shortage and a reduction in poverty which was the result of apartheid in South Africa (Moganedi & Sithole, 2020). So, it is meant to build up and advance the skills of the South African workforce and to incorporate those strategies within the National Qualifications Framework as reflected in the South African Qualifications Authority Act of 1995. The aim of the Skills Development Act is also to ensure that learnership leads to employment and there is funding for the development of skills through a levy-grant scheme and a National Skills Fund (Moganedi &Sithole, 2020). The Act was again designed to increase investment in training, afford employees the acquisition of new skills, encourage the utilisation of the work environment as an active learning space and promote self-employment. According to the Act, workers should participate in learning programmes, and employment for the previously disadvantaged population during the apartheid era should be facilitated.

2.6.3 Accelerated and Shared Growth Initiative in South Africa (AsgiSA)

In 2004, the government of South Africa was mandated to reduce poverty and unemployment by half by 2014. The Accelerated and Shared Growth Initiative in South Africa (AsgiSA) was one of the strategies implemented that aimed at reducing unemployment and poverty and accelerating employment equity and economic improvement and development (Reynolds, 2017). The AsgiSA identified South Africa's major challenge as skill shortages, especially in the areas of scientists, engineers, financial and project managers, artisans, and information technology (Jooste-Mokgethi, 2013). This was made possible due to the discriminatory educational policies that existed in the apartheid system (Jooste-Mokgethi, 2013). So AsgiSA advocated for upgrading career guidance programmes, training colleges and training

programmes, especially for adult basic training based on Cuba's and New Zealand's models. On top of addressing the skills challenge in education, the AsgiSA also aimed to develop an Employment Service System that would close the gap between employers and employees. A database of scarce skills for over 100 individual projects was also to be established. The women and youth were to receive human resource training and participate in agriculture and creative industries, among many other things.

2.6.4 Sector Education Training Authorities (SETA)

Sector Education and Training Authority (SETA) was established under the Skills Development Act in 1998. Its main aim is to contribute to skills development and improvement in South Africa (Halabi, 2013). To achieve this, a balance is to be struck between demand and supply, and education and training should address labour market needs by adequately training its entrants while also enhancing the skills of the existing workforce (CHIETA, 2017). SETAs are expected to promote and facilitate sector-specific skills delivery and interventions that aid in achieving the goals of the national skills development strategies and coordinate the skills needs of employers (RSA, 2014). So, SETA's function is to develop sector skills that align with the national skills development strategy, implement sector skills by approving annual training reports, and monitor education and skills development. SETA is also expected to collaborate with the National Skills Authority on national skills development issues, promote learning programmes by supporting learning material development and improve learning and being part of the learning programme agreements (Halabi, 2013).

2.6.5 National Skills Fund (NSF)

The National Skills Fund (NSF) was established in 1999 in terms of the Skills Development Act (SDA) of 1998. The NSF was to support the National Skills Development Strategy implementation (NSDS) and offer a contribution to the government's Outcome 5 which focused on having a workforce that was both capable and skilled to attain growth (DHET, 2015). The NSF was also expected to meet the training needs of the non-levy-paying cooperatives, those unemployed, non-governmental organisations, and groups rendered vulnerable (RSA, 2014). The

National Skills Fund prioritise in advancing rural development, the strategy of Human Resource Development, supporting the new economic growth path, aligning itself with projects of the National Skills Development, and skills development especially in education and health (RSA, 2014). Thus, NSF's aim is to improve the skills development programmes to benefit the unemployed and those in the rural or peri-urban areas, facilitate labour market transition and create development and opportunities for employment for everyone, that is the youth, women and people with disabilities (DHET, 2015). It is worth noting that the NSF is mainly funded from 20% of levies which are collected from employers in accordance with the Skills Development Levies Act, and used to support national skills development strategies and other national priorities.

2.6.6 Constitution of South Africa Act 108 of 1996

The supreme law of South Africa is the Constitution, and it shapes any other law to be passed. The Constitution of South Africa grants the right to basic and further education to all its citizens. This is enshrined in Section 29 of the Constitution. According to Section 29(1), everyone's right to basic education should be protected. Thus, education should be able to empower everyone and give everyone the skills that will enable them to be self-sufficient and at the same time, contribute to the country's economy (Macha & Kadakia, 2017). Hence, the curriculum itself is expected to be competitive enough to equip its recipients with the necessary survival skills. The right to education is extended to everyone in South Africa and not only its citizens; hence, it is diversified. The South African Constitution is the most powerful tool for economic development and education or skills development. However, there have been occasional debates on whether the constitutional rights of South Africans are being met (Navondwe & Odeku, 2013).

2.7 Theoretical framework

This study made use of learning theories to have a better understanding of technical education and how to prepare an effective educational programme. The complexity of technical and vocational education makes it difficult to explain with a single theory, thus the behaviourist learning theory and constructivism learning theory are used. It is worth noting, though, that most theories about learning are from either psychology or

education, with the psychology theories zeroed in on describing how people act and the educational theories on describing the learning experiences of people and how they come to make sense of the world around them (Nadia, 2018). So, this section presents two educational theories, and these are discussed in relation to how they can be applied to technical and vocational education in the basic education curriculum as a way to pave a better understanding of the learning objectives for students.

2.7.1 Behaviourist learning theory

Many scholars have supported the behaviourist theory of learning, and as the years progressed, so did the theory. However, B.F Skinner (1904-1990) and James Watson (1878-1958), made it more popular in their times (Baulo & Nabua, 2019). The behaviourist learning theory emphasises the role of the environment in determining behaviour (Anderson, 2015). So, behaviourists argue that behaviour is deliberately shaped by environmental forces; hence, a person's action is not entirely voluntary but designed. It is again others who determine a person's way of behaving or course of action and not their free will and usually, reinforcement and motivation determine whether someone's overt behaviour is desirable or not. Skinner (1990) notes that where there is a reward for every reinforced behaviour through punishment or appraisal, the behaviour is more likely to be repeated and accepted as the right one.

In addition, behaviourists also argue that by shaping desirable behaviour, morality and information are learned. The learner is more likely to remember and acquire only responses to satisfying outcomes (Baulo & Nabua, 2019). Only after the student is ready for the connection is learning enhanced. Just like scientists, behaviourists search for laws that successfully govern human behaviour. When teaching new tasks Teachers present lesson objectives that linearly possess hints or cues as a way of leading students to specific behaviour and use the effect to reinforce the specific behaviour. Moreover, in behaviourism, assessment is a tool for behaviour change and making such assumptions have been found to have positive consequences (Juhmani, 2018).

Feedback is essential for learning new tasks from a behaviourist perspective. Good feedback from the environment or other people makes an action acceptable and more likely to stick (Anderson, 2015). An educator or teacher can help students by

conditioning them by identifying behaviours that are desired, measurable, and observable, and recording them and their frequencies to reward them every time they are exhibited (Anindyarini et al., 2017). Moreover, there is consensus among behaviourists that behaviour is predictable, thus the designer exists to identify the sub-skills the student is expected to have and select the proper stimulus or strategy that builds each sub-skill. So, it is by strengthening these skills that behaviour is learned. There is a need though to pre-assess the students to determine where learning should begin and use reinforcement to impact behaviour (Ertmer & Newby, 2013).

The theory of behaviourist learning aided in the understanding of how to introduce a new curriculum of technical education into basic education and how to motivate the students to take up the new challenge. The argument by behaviourists that teachers condition the students to specific behaviour and the student's actions are by design and not by their will is that in technical education, only when the educators introduce the students to the new curriculum in basic education and reinforce it by stating its benefits can it be accepted as beneficial to the students. The testimonials of those who would have benefitted from technical education act as the much-needed rewards of technical education, which might motivate the students to take it up.

As Skinner (1990) argues, it is the environment that determines behaviour, the changing world desires technocrats to be competitive; thus, as people influence people, they should be knowledgeable as per the argument of behaviourists, for technical education to be successfully integrated into basic education, professionals should be part of it. Thus, the behaviourists aided in the understanding of why, mainly in African nations, technical education is yet to be prevalent as there are few professionals knowledgeable of the curriculum (Atanga & Henri, 2022).

Reinforcement is emphasised in behaviourism as a means for a behaviour to stick and the need to have people who condition the behaviour. In technical education, the government's involvement in reinforcing the issue of technical education by offering grants and drafting favourable policies will foresee it attaining positive consequences. Again, people with experience teaching technical education will bring the experience into the classroom. Just as teachers provide cues according to the behaviourists to an intended behaviour, teachers knowledgeable of technical skills and with practical

experience should provide cues for the students to understand its practicality. Hence this theory proved to be relevant to this study.

2.7.2 Constructivist learning theory

The constructivist theory has its roots in early philosophers like Dewey (1938), Hegel (1807/1949), Kant (1781/1946) and Vico (1725/1968). The argument for constructivism is that experience constructs knowledge, which results in a personally unique reality (Glasersfeld, 1998). Hence, it is these personal experiences that make learners willing to learn and enable learning. The design of constructivism in learning focuses on activities that allow the creation and recreation of student experiences and the modification of new learning. It is through experience that knowledge is rendered relevant and of important (Zainuddin & Sahrir, 2015). The constructivist theory notes that knowledge is not a result of passive transference but of active recognition by the individual. Also, constructivists argue that an individual's behaviour changes within a given environment when the individual perceives the benefits it carries (Dewey, 1980).

More so, the theory of constructivist learning notes that students build their new experiences on top of their current foundation of understanding, hence learning is an active mental work (Kurt, 2021). Hence, if the meaning is created from experience learning would have occurred. The mind is said to filter the world's input to produce its own unique reality, which is of course informed by direct experiences with the environment. Humans create meaning as opposed to acquiring it. The world is changing and the interpretation of knowledge is also prone to change; hence, knowing objective reality is what drives the constructivists, considering that knowledge emerges in contexts within which it is relevant (Ertmer & Newby, 2013). According to the constructivists, there are three stages of knowledge acquisition, which are introductory, advanced, and expert, and it is at the last stage that initial misconceptions and biases, which may have been acquired, especially at the introductory stage are corrected through experience.

The changing context of global competition, cultural diversity, new technologies and management processes requires today's technical and vocational education institutions to produce a workforce equipped with critical thinking, problem-solving, communication skills, and advanced-level job skills (Manetse, 2014). It is paramount

then that, within this ever-changing world and work environment, the students are able to construct viable knowledge to adapt. The constructivist principles are examined considering the fundamental requirements of career and technical education in the twenty-first century's redesigned professions (Manetse, 2014).

The constructivists stress experience impacting knowledge; hence, for education to be efficient and address the problem, there is a need for the practical aspect, which basic education does not have. So, the theory leads to the understanding that technical education adds a practical aspect, which is globally lacking in basic education. The fact that the constructivists argue there is always a foundation, which the learners build from, is that basic education paved the way for technical education that addresses the current scenarios of the current world and the required educational system. Students increase their knowledge on top of what they already have.

The focus of constructivist learning theory is that knowledge is contextual and goes with the change in environment and experience (practices) that define effective learning. Thus, technical education is flexible to determine the skill set of the current time frame as it aims for skills that define that specific era. Basic education is characterised by theory and technical education, followed by the practical aspect that was lacking and is now demanded by the current industries. Hence, from the above argument, the theory was relevant for the study as it gave an in-depth understanding of the importance and need of incorporating technical education into basic education and how students best acquaint themselves with the new technology curriculum.

2.8 Conclusion

Literature has brought out a vast knowledge of technical and basic education; however, it is worth mentioning that literature on technical and vocational education's impact on Africa is still scarce. Thus, this chapter looked at technical education first from a global perspective and then from an African one and concluded that technical education still has a long way to go on a global scale, considering it has yet to be fully incorporated, especially in low-level education. Basic education in a global and South African context was also explored. The importance of technical education, as well as its impact on basic education, was unveiled. South Africa's policies and legislation that address education were identified. The chapter ended with a discussion of the theories

that guided this study, the behaviourist and constructivist approaches to learning. The following chapter will look at the methodology underpinning the study.

Chapter 3

Research Methodology

3.1 Introduction

This chapter unveils the procedures that were adopted in carrying out this research study. According to Creswell (2016), research entails the systematic and organised exploration of the problem at hand, either encountered in a work setting or elsewhere, in the hope of finding a solution. Thus, it is governed by a series of steps with the goal of finding answers to the research problem. The paramount purpose of research is to ensure that there is a description, explanation and validation of the findings using the data gathered. So, this chapter will explore the significance of technical education in basic education by interviewing members of the Umlazi community. The chapter will begin by identifying the research design used and then further highlight how the research problem was explored by unveiling the selection criteria of the participants and their quantity, the data collection procedures, and the analysis tools. The chapter will end by highlighting the ethical principles that were considered during the research study.

3.2 Research Design

A research design can be viewed as a blueprint or framework utilised in conducting a research study that highlights the procedures used to acquire information or data that offers solutions to a research problem (Kelvins, 2018). So, it is a plan with details on the procedure pertaining to the methodology used to solve the problem investigated in the research (Creswell, 2014). The reliability and validity of a research study depend on data that is effectively collected, measured, analysed and interpreted (Sileyew, 2019). "Research design can be considered as the structure of the research and the 'glue' that holds the different elements in a research project together, in short, it is a plan of the proposed research work". (Akhtar, 2016:68). McCombes (2019) notes that it is important to avoid scenarios where the collected data is not able to answer the research questions; hence, that is where the identification of the relevant research design comes in.

There are several designs in research. These entail correlational, descriptive, experimental and exploratory research designs. This study made use of exploratory and descriptive research designs.

3.2.1 Exploratory research

Kowalczyk (2014) and Creswell (2016) are of the view that in exploratory research, a researcher has an idea or has observed something and seeks to understand more about it. An exploratory approach again permits a researcher to have a better understanding of a subject matter that has not yet been thoroughly studied (Makri & Neely, 2021). Thus, this was useful following the scarcity of information on technical education's impact and significance on basic education in the African context, South Africa included. Exploratory research topics may not have been thoroughly explored previously; therefore, they need an in-depth understanding. Exploratory research also allows further exploration of a research problem and the analysis of lived experience even without fieldwork being involved. This study's aim was to bring out the significance of technical education in basic education in South Africa and, following that, this area is lacking literature, especially in South Africa. The exploratory research design proved to be the right approach for the study.

3.2.2 Descriptive research

The descriptive design was also utilised in this study. According to Patricia and Rangarajan (2013), descriptive research design concerns itself with the who, what, where and how questions and not the why the question of a phenomenon. Kowalczyk (2014) further states that descriptive research attempts to explore and explain topics with additional information. So, it strives to measure what exists against the situation's variables. Thus, the descriptive design aims to describe, explain, and validate a population's objective. Descriptive research designs are usually observations, case studies, or surveys in nature. So, for this study, a descriptive research design aided the researcher in understanding the extent to which participants knew of the significance of technical education in basic education and the extent again to which technical education also positively or negatively impacted basic education. The researcher was able to elicit from the participants the importance of technical education in South African basic education.

3.3 Research Approach

Creswell (2014) views a research approach as plans and procedures used to identify methods to gather and analyse data. There are mainly three approaches to a research study: qualitative, quantitative, and mixed-method approaches. This study took a qualitative stance for its data collection and analysis. In qualitative studies, the gathered information or data is either visual, textual, or verbal (Hammerberg et al., 2016) and this same data is both described and interpreted.

Quantitative research is numerical in nature (Creswell, 2014). Quantitative research aims to reduce ambiguity by changing how data is viewed by pre-structuring and categorising it (Saunders et al., 2016). So, quantitative methods are mathematics-based and the information is close-ended (Miller 2020). In addition, quantitative research results are quantifiable, that is, they can be generalised easily to the larger population. When it comes to the mixed method approach, simply means the use of both qualitative and quantitative research approaches in a study. The mixed method approach is time-consuming but at the same time effective, as it compacts the shortfalls of each method.

3.3.1 Qualitative Research Approach

The study adopted qualitative research in the hope of understanding the significance technical education has in basic education. Qualitative research aims to explore the research problem in its natural or everyday context (Flick, 2018). Qualitative research is non-numerical in nature, the very opposite of quantitative research; thus, it is descriptive in nature. Data collection tools in qualitative research usually include interviews, observations and focus groups, and the gathered information is often open-ended. This approach enables researchers to focus on social reality (Creswell, 2013; Flick, 2018). It ensures an investigation of the

qualities rather than the quantities of a phenomenon. Thus, qualitative is important because it brings valuable insight into the behaviours and experiences of people in their everyday routines. The use of qualitative methods enables a researcher to gather rich and detailed data, which answers the research problem investigated (Saunders et al., 2016). Thus, qualitative research through the utilisation of interviews managed to gather enough evidence for the subject matter.

3.4 Target Population

A research population consists of a “complete set of cases or group members that is the focus of the research inquiry, and from which a sample will be drawn” (Saunders et al., 2016:729). So, the target population is the entire group of individuals or objects to which the researcher is interested in generalising the conclusions. The target population for this study was the community of Umlazi district, Durban. The sample size was then extracted from this targeted population.

3.5 Sample and sampling

The suitability of the sampling strategy, apart from the methodology and instrumentation, also guarantees research quality (Flick, 2018). The sample size entails a smaller number or a certain number of participants who are identified from the targeted population (Creswell, 2014). The sample is a fraction of the target population that the researcher will use for data collection. The sampling method has a bearing on the sample size. According to Creswell and Miller (2013: 22), sampling is the process of selecting individuals or objects representing the entire population in a study. The sample size of this study consisted of 17 participants, that is, two (2) principals drawn from two technical high schools in Umlazi, two (2) technical science teachers, from two technical high schools within Umlazi, Durban, four (4) community members whose children have attended and completed their qualifications in technical high schools in Umlazi, four (4) youth who have completed their qualifications in technical high schools and three (3) Mangosuthu University of Technology lecturers.

3.5.1 Sampling method

Sampling methods are mainly divided between probability and non-probability (Robinson, 2014). Probability sampling, also known as random sampling, gives equal selection opportunities to all participants who are considered eligible for the study. Non-probability, that is, non-random sampling, on the other hand, is the very opposite of probability sampling. There are no equal selection criteria in non-probability sampling (Saunders et al., 2016; Moser & Korstjens, 2017). This study utilised purposive sampling, which falls in the non-probability sampling category.

3.5.2 Purposive sampling

In purposive sampling, the selection criteria are left to the researchers' discretion, who choose participants based on the characteristics the researcher seeks (Palinkas et al., 2015). On the same wavelength, Mouton (2007:211) argues that purposive sampling means that participants are selected because of some defining characteristics that make them holders of the data needed for the study. Maree (2007:89) affirms that purposive sampling refers to the selection of the sample based on the researcher's judgment as to which subjects best fit the study's criteria and are selected based on the particular purpose of the experiment. So those deemed knowledgeable of the subject matter make up the sample size in purposive sampling. This sampling method is one of the defining approaches in qualitative research and is most relevant in many qualitative research studies. Thus, the interview participants were chosen based on their knowledge of both technical and basic education.

Purposive sampling has numerous advantages for research, as evident in the current study. Purposive sampling has been identified as being effective in instances where the sample size is limited, so most of the rich information is effectively harvested from the small sample (Moser & Kostjens, 2017). The purposive sampling technique is both effective-cost and time-efficient. Participants are quickly recognised who are relevant to the study; hence, time is not wasted and unnecessary costs are incurred in dealing with a large sample size (Moser & Kostjens, 2017). Though sometimes this technique is critiqued as biased, the researcher managed to gather relevant and rich data to saturation from the knowledgeable chosen participants.

Inclusion and exclusion criteria

Only principals of technical high schools located in Umlazi were included. Principals of other high schools were excluded. Only community members whose children have attended and completed their qualifications at technical high schools were included, other community members were excluded. Youths who completed their qualifications at technical high schools in Umlazi were included, while other youths who completed their qualifications elsewhere were excluded. MUT lecturers specialising in technical education and skills acquisition-related courses were also included in the study, while non-specialist lecturers were excluded.

3.6 Data collection

Data collection is the process of systematically collecting and measuring data sets of research in the hope of answering the research questions, testing the hypotheses, and evaluating the outcomes (Jovancic, 2019). The study made use of a qualitative method, that is, interviews, as its data collection tool.

3.6.1 **Data collection instruments**

There are a plethora of data collection instruments in research and these range from observations, experiments, document analysis, questionnaires, and interviews to mention just a few. As Watson (2015) describes, qualitative data collection tools are instruments designed to acquire mainly qualitative data that is descriptive and exploratory in nature. The tool for data collection should be in line with the type of research, as well as the research design and strategy so as to produce results that are accurate and credible. Interviews as the most preferred and most utilised data collection techniques in qualitative research were made use of in this study (Wanjiru, 2015).

3.6.2 Semi-structured Interviews

Interviews, as alluded to earlier, are a qualitative data collection instrument. There are various types of interviews, including structured, unstructured, semi-structured and group interviews. Each type of interview has its strengths and weaknesses. For this study, face-to-face, semi-structured interviews were utilised. The semi-structured face-to-face interview involves a one-on-one interaction between the researcher and the participant (Showkat & Pareen, 2017). The interviewer asks questions about the research study and the respondents offer answers, as per their understanding of the subject matter. Face-to-face interviews have been found to have a high response rate as well as reliable data following the argument that the researcher will be there to probe, when necessary, explain questions that were not understood and read into the body language of the participants to see if their body language matches what they are saying (Flick, 2018).

In addition, semi-structured interviews borrow from both the structured and unstructured elements of interviews. That is, it is both structured and unstructured in

nature, possessing the advantages of both structured and unstructured interviews (Motene, 2017). Semi-structured interviews have been argued to be an effective qualitative data collection tool when little is known of the subject matter and where there is a need to gather detailed information pertaining to a subject matter. Thus, following the meagre studies on technical education and basic education in South Africa, the semi-structured interviews managed to glean vast amounts of data on the research topic. Moreover, semi-structured interviews allow a researcher to gather data that is first-hand from the investigated or affected population (Showkat & Pareen, 2017). Participants are probed as they express their opinions, experiences, values and knowledge of the subject matter. So, with semi-structured interviews, the researcher was able to gather first-hand information on the research questions from the Umlazi community.

According to Motene (2017:38), semi-structured in-depth interviews enable respondents to share their views freely, elaborate on and clarify certain issues enabling researchers to collect in-depth data. Moser and Korstjens (2017) further note that an interview guide should be used for semi-structured face-to-face interviews to be effective and successfully meet the needs of the research questions. There should be pre-structured, detailed questions to ensure that the researcher does not deviate from the aim of the research and the relevant data to be collected. As Salmons (2015) notes, face-to-face interviews usually last between 30- and 90-minutes.

The semi-structured face-to-face interviews for this study were carried out with 17 participants who were purposively selected following their knowledge of technical education as well as basic education in South Africa. Informed consent was sought from each participant before the commencement of the interviews and the nature of the study was explained to the respondents. The different participants were interviewed in a controlled environment or room without anyone around to guarantee their privacy and ensure that nothing disturbed the interview's progress. An interview guide was adopted to ensure the researcher did not deviate from the course of the study, and the proceedings of the interviews were audio-recorded so as not to disturb the interview by note-taking and for future transcription, and the participants were again guaranteed this was for research purposes only.

The interviewees were engaged for 45 minutes to an hour, during which probes and prompts were made by the interviewer until data saturation was reached. Participants were given a chance to ask questions before the researcher ended each interview session by thanking the participants. It must be noted that all the COVID-19 protocols were followed by the researcher during all the interview sessions.

3.7 Pretesting

Majid et al. (2017: 41) are of the view that “a pilot study represents a cornerstone of good research design, and in fact, a pilot study is an essential initial step in research, and this applies to all types of research studies”. The researcher conducted the first pilot test with three of his friends who were undertaking the same level of study. The goal was to monitor if the questions evoked the relevant body cues and ascertain if the line of questioning was clear and understandable. Six Umlazi community residents knowledgeable in technical and basic education took part in the second pilot test. After these corrections were made to the line of questioning and the time frame of the interviews, the final pilot test was conducted with two technical teachers from Umlazi, and again appropriate adjustments were made after the interviews. It must be noted that all the participants who were part of the pilot tests were excluded from the study.

3.8 Data analysis

Data analysis is a method used to collect, model, and analyse data to gain insight that leads to decision-making (Calzon, 2021). The collected data will be reduced, organised and explained by the researcher using Braun and Clarke’s (2006) thematic analysis. The following phases were followed as per the fifteen-point checklist by Braun and Clarke:

Table 3.1: Fifteen-point checklist of criteria for proper thematic analysis

Process	No.	Criteria
Transcription	1	"The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for accuracy."
Coding	2	"Each data item has been given equal attention in the coding process."
	3	"Themes have not been generated from a few vivid examples (an anecdotal approach), but instead, the coding process has been thorough, inclusive and comprehensive."
	4	"All relevant extracts for each theme have been collated."
	5	"Themes have been checked against each other and back to the original data set."
	6	"Themes are internally coherent, consistent, and distinctive."
Analysis	7	"Data have been analysed, interpreted and made sense of, rather than just paraphrased or described."
	8	"Analysis and data match each other; the extracts illustrate the analytic claims."
	9	"Analysis tells a convincing and well-organised story about the data and topic."
	10	"A right balance between analytic narrative and illustrative extracts is provided."
Overall	11	"Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it the once-over-lightly treatment."

Process	No.	Criteria
Written report	12	"The assumptions about, and specific approach to thematic analysis are explicated."
	13	"There is a good fit between what the researcher claims to do and what the researcher shows to be done, i.e., described method and reported analysis are consistent."
	14	"The language and concepts used in the report are consistent with the epistemological position of the analysis."
	15	"The researcher is positioned as active participant in the research process; themes do not just emerge."

Source: Adapted from Braun and Clarke (2006: 96)

Guided by the above steps, the researcher read and re-read through the data collected from the interviewees. The findings were measured against the audio recordings to ensure that no important information was excluded or the researcher's views captured. Themes or labels were allocated to the transcribed data. These themes were based on the nature of technical education, the importance of technical education and challenges to technical education integration in high schools. The comparison of these themes against one another gave the researcher the final headings for the presentation of findings.

3.9 Data quality control

Research findings should be as trustworthy, reliable and credible as possible, and every research study must be evaluated in relation to the procedures used to generate the findings. It is important that research quality control is implemented to make sure that the data which is collected by means of various methods is of superior quality and accuracy. Thus Tracy's (2010) criteria for the fulfilment of research quality were followed as depicted below:

- Worthy topic: This entails the relevance of the topic, if the research was done in the anticipated time frame, and if the research is of value or importance. Thus, this study was found to be of great significance as it added to the meagre literature

existing on technical education's impact on the basic education of South Africa. The topic again proved to be interesting and relevant, as it is a future source for those who wish to expand on the body of knowledge of technical education and basic education.

- Rich rigour: This is zeroed on the use of appropriate data, samples, and methods of data collection. Also, it is concerned with the sufficient use of complex theoretical concepts and the analysis process of the data. Relevant tools for data collection in qualitative research were utilised, and relevant data was gathered and analysed using thematic analysis, the best tool in qualitative research.
- Sincerity: This criterion looks at the research's transparency and biases. To achieve this clarity was provided by the researcher where it was needed during the research for transparency. Honesty was also practised following the researcher highlighted where in the research the shortfalls lay and how to rectify them.
- Credibility: This is associated with the level of truthfulness in the research. To ensure this, knowledgeable participants were purposely selected for the study. Bias was also limited at every level of the research and themes were arrived at that answered the research questions after thorough study and measurement of the data.
- Significant contribution: This involves the conceptual, theoretical, and practical contributions of the study. The study aimed at investigating the significance technical education has in basic education and following the whole study vast theoretical and conceptual knowledge was shed pertaining to the subject matter.
- Ethical considerations: This refers to all the ethical considerations followed in the research. These are explored in Section 3.10.

3.10 Ethical Considerations

Ethics act as guidelines in research to determine what is considered either acceptable or unacceptable behaviour to a researcher (Du Plooy-Cilliers et al., 2014). Thus, this study took into consideration several ethical principles.

3.10.1 Voluntary participation

Every research gives participants the autonomy to choose to be part of or not to be part of the research study. No form of cohesion, bribery, or force should be used to coerce participants as all participants should be of their own free will. The researcher made this known to the participants and informed them of the nature of the research so that they could make an informed decision about whether to participate or not. The researcher also informed the participants that they were free to withdraw from the study without consequence if they felt they no longer wanted to be part of the research.

3.10.2 Informed consent

The issue of informed consent is of major significance in every research project. Participants should make the decision of being part of the study after being informed of what it entails and signing an informed consent form. Thus, the researcher ensured the study's nature was well explained to the participants and they also signed the consent forms before the start of the interviews.

3.10.3 Confidentiality and anonymity

Participants' confidentiality and anonymity are essential in research. The participants are deemed to have the right to protect their identities. So, to achieve this, the researcher ensured only identifiers were pinned to responses and not real names. Pseudonyms were used from the recorded data up to the final document. And again, only the researcher and supervisor will have access to the original files or recorded data sets.

3.10.4 No harm to participants

The ethical principles also extend the do no harm principle to the participants, physically, emotionally, and mentally. This was also adhered to by the researcher, who explained the nature of the research to the participants so that they could participate if they felt comfortable. Questions that may trigger emotions, embarrass, or affect the participants' comfort were refrained from altogether.

3.10.5 Ethical clearance

Ethical clearance was sought from the relevant ethics committee before the commencement of this study. Thus, this study was conducted in line with the Durban University of Technology Research Ethics Policy and guidelines to avoid harm and wrong doings.

3.11 Conclusion

The research's design and approach were discussed in this chapter. The study took a qualitative stance and both descriptive and exploratory approaches to research were discussed in detail. A total of 17 members of the study sample were also unveiled; all the participants were from the Umlazi community. Purposive sampling was utilised on participants who were more knowledgeable of the targeted subject matter. Data was collected through face-to-face, semi-structured interviews, which were found appropriate as vast amounts of data were yielded. The data were analysed through thematic analysis and mechanisms for data quality control were also explored. A final section of the chapter dealt with the various ethical procedures the researcher adhered to. The next chapter will look at the presentation and analysis of the findings.

Chapter 4

Presentation of Findings, Analysis and Discussion

4.1 Introduction

The findings on the significance of technical education in basic education are presented and discussed in this chapter. The various reflections and ideas from the interviewees were gathered and major findings are discussed and analysed with the aid of reviewed literature and theoretical perspectives that guided the research. Hence, an easy-to-understand presentation is derived from critical themes identified from the study's objectives and results. Thus, the findings of this chapter help to understand the real relationship that exists between technical education and basic education in the South African context. The findings will aid in a better understanding of the nature of basic education in the high school curriculum, the importance of being exposed to technical education in the early years of schooling and the associated challenges to implementing technical education in the high school curriculum. The chapter will begin by summarising the identified critical themes, presenting and analysing these findings, and then ending with a detailed discussion of the findings and the conclusion.

4.2 Study themes

The study's data was gathered from 17 participants who were deemed more knowledgeable on the subject matter. These consisted of four teachers from different high schools, two principals from different technical high schools, three lecturers from a technical institution, four community members whose children have attended such schools and five youths with knowledge and qualifications in technical education. The primary focus of the research was to investigate the significance of technical education in basic education in the South African context and insight on the topic was gleaned from the participants' reflections. The following, that is, Table 4.1 indicates the recurring themes identified from the interviewees' responses. Four main themes were identified that meet the study's objectives. The sub-themes were also identified and accordingly organised from the responses provided by the participants and the responses again in reflection of the study objectives.

Table 4.1: Identified Themes

Identified Themes	Sub-Themes
Nature of technical education content in high schools' curriculum	• Theory versus practice • Skill based learning • Competency-based learning • Basic skill learning
Importance of technical education exposure to employability	• Promotes entrepreneurship • Creates bosses • Facilitates employability • Pave early career paths • Creates competitive advantage • Increases productivity
Challenges in integrating technical education in high schools	• Expensive to implement • Lack of teacher and parent support • Lack of resources • Poor leadership • Lack of technical education knowledge • Late introduction in the curriculum • Lack of government support • Rigidity to change • Misconception of technical education
Approaches for growth and change	• Change in school policies • Involvement of competent leadership • Participation of all parties • Make technical education compulsory • Exposure to technocrats

The section to follow presents and analyses the critical research findings, giving a detailed reflection on these identified themes. The theoretical framework and the reviewed literature will be used in discussing the study's findings.

Presentation and Analysis of Findings

This section provides the presentation and analysis of the main themes and their sub-themes as identified from the gathered data.

4.3 Theme 1: Nature of technical education content in high schools' curriculum

4.3.1 Theory versus practice

All the interviewed participants agreed that technical education took a more practical approach to teach than basic education. The participants were very clear that this is what sets technical education apart from basic or academic education. This is what the participants had to say when asked about the key differences between technical education and academic education:

> *The difference is that in academics, only theory is used to teach, whereby technical education includes more practical and less theory to teach.* ***Participant 1***

> *The difference is that technical education allows learners to do practical subjects and theory, even though the theory is not much, such as welding, sports, agriculture, automotive, etcetera, whereas academic [education] only includes theory subjects like history, IsiZulu, English and other theoretical subjects. So, it emphasises more hands-on skills.* ***Participant 2***

> *Technical education focuses more on acquiring practical skills, hands-on projects and skills development, it includes subjects like computer literacy, mechanical engineering, electrical, agriculture, sports, welding, civil drawing and other technical fields and less theory, whereas academic focuses more on theoretical knowledge such as reading and writing.* ***Participant 3***

> *Well according to me and my experience the difference is that in technical education the content that is covered includes practicality in it, hands-on work, for example, electrical technology, agriculture, mechanical technology, civil engineering, and other technical subjects as opposed to academic where*

learners do not do practical work but do the theory work like reading and writing. ***Participant 7***

The participants further illuminated that though technical education is more of a hands-on approach, and academic education is theoretical, there is a need to have a link between the two for effective education to take place. Participants 7 and 8 were respectively quoted as saying:

> *Technical education emphasises theory, but that theory needs to be linked with the practical aspects, for example, the learners are reading a book on how to use a computer, they will also have to do practicals on the computers that are in line with the theory to see if they understood what they read on the book.* ***Participants 7***

> *I think the difference is that here in technical, we deal more with practical skills or hands-on work, although these practicals are linked with theory, whereas academic education only deals with theory only no practicals for example I teach the automotive subject, so when I teach my learners I start with a theory explaining to them the scenario that we need to solve and then link it to practicals where a child will have to fix or check fault in a car and this is where practical kick in.* ***Participants 8***

Another participant further revealed the need to adopt technical education following the benefits it carries in its practical approach:

Well, my perspective regarding technical education is that technical education is a good education and should be implemented in basic education especially in a lower grade of schooling because it deals more with practicals and less theory. I feel by teaching kids technical education in lower grades will help in the reduction of unemployment, reduction in the country's foreign exchange bill (because goods are produced locally due to better technical skills and trained manpower), and reduction of poverty and social inequality in the society. Participant 10

4.3.2 Skill-based learning

The participants revealed that technical education emphasised the learning of skills over just general knowledge. The participants highlighted this as enabling individuals to be self-reliant and having their potential skills recognised and unlocked at an early age. The participants had this to say:

> *Technical education emphasises skill-based learning, self-reliance, and job creation and focuses on how to teach practical skills.* ***Participants 15***

> *Technical education is more of a skill-based education, it focuses on hands-on learning or practical skills, such as electrical engineering, woodwork, agriculture, coding, IT, and other technical skills.* ***Participant 4***

Participant 4 went further to note that:

> *Academic education focuses more on delivering the theory whereas technical education focuses on skills development, whereby a student is required to build a project, fix things, invent new things, grow food etcetera.*

The findings show that the participants identify technical education as focusing on specialisation in a skill beneficial to an individual, and not only on reading and writing as per the emphasis of academic education.

4.3.3 Competency-based learning

The competency aspect embedded in technical education has been identified by participants as another characteristic of its education. The participants indicated that technical education in high schools breeds competent students both in the outside world and in academic education itself. The participants revealed that:

> *….. in most cases schools that do technical curriculum usually, have a high matric pass rate and the product of the student that they produced are competent people.* ***Participant 1***

> *Technical education is more on exposing a person to the reality of how the world operates, technical education focuses more on a hands-on project where*

a learner is taught how to fix things, build plant food, and other technical career fields. ***Participant 6***

The above views of the participants indicate that students can gain more competency from technical education than they can from academic education alone. This kind of technical education affords society members, who are knowledgeable about the technical world and are effective problem solvers.

4.3.4 Basic skill learning

Five of the participants noted that technical education on top of its distinguishing characteristics of being practical has shown that high school students who choose a technical curriculum also excel in their academic curriculum. Participant 6 commented on students who are only exposed to an academic curriculum:

They are very bad with writing assignments and projects they can't express problem-solving skills, they can't even use computers, and they are more into cramming what is written in the books. ***Participant 6***

This was identified as being the very opposite of the performance of technical education high school students as commented on below:

Yes, I think most of the technical high schools each year have high matric pass rates and besides high matric pass rates, learners that do technical subjects go out of matric with some relevant foundation of technical skills than those who just did academic curricula. ***Participant 13***

I would say yes because schools that do technical education usually perform better than those schools that only do theory curricula. ***Participant 11***

Yes, I think so because schools that do both technical and academic education tend to have a high rate of grade 12 pass rate as compared to those that only do theory curriculum. ***Participant 8***

However, Participant 12 went on to elaborate that the school's leadership had a bearing on the effectiveness of the curriculum and the pass rate. This is captured as follows:

I would say yes and no because I think it depends on the leadership of the school and how well they prepare for their students and with yes, in most of the technical schools their matric pass rate is always high as compared to schools that only do academic education.

4.4 Theme 2: Importance of technical education exposure to employment or self-employment prospects

The participants identified seven different themes that revealed the importance of exposure to technical education for high school students and their employment prospects. The themes are presented below:

4.4.1 Promotes entrepreneurship

The participants revealed that technical education moulds future independent business owners or entrepreneurs. Technical education has then deemed a necessity, considering it offered such benefits and carried such importance. Participant 1 commented as follows:

The significance of teaching technical education in lower grades is that it promotes independent workers and entrepreneurs at an early age, it encourages self-learning and self-reliant and it provides skilled craft

On the same note, another participant highlighted that the changing work environment of the fourth industrial revolution calls for individuals ready for the environment. This again leans towards knowledgeable individuals who can start their businesses and be able to sail in this new change.

The significance of teaching technical education is very important. As a country we are going towards a fourth industrial revolution, so we must teach learners skills that are going to be needed by the outside school world, technical skills orientated that include hands-on work, especially at an early age. So, looking at the education that all the learners should be exposed to, it is very important that we expose them to technical education as early as possible so that they can be able to find themselves as to which area are they good at, which field or career path do they like to follow rather than just looking at that, or choosing a

stream perhaps at a higher level or FET level. It is easier when they start at the lower level. And looking at the fact that the learners that we have today are very clued up with computers, and games, they are very good with cell phones or anything with technology, you can see that it is easier for them to do things that are technological inclined as opposed to the formal kind of learners. ***Participant 7***

Participant 7 further noted that technical education did not matter if a student had not completed his or her grade 12 education because he or she would be equipped with hands-on life skills that could be used to earn money. This is what the participant stated:

I would say they are relevant to the economy because we teach learners different practical skills that will assist them in the future, Technical education guarantees the skills that even if you did not finish grade 12, you can still survive, be self-reliant open your [own] industry like farming and selling, fixing things, building, designing, cooking and other opportunities that are available from technical education. Technical education also boosts the economy by creating job opportunities for the communities.

4.4.2 Creates bosses

Experts and bosses are created by being phased into technical education. As identified by some of the participants, the curriculum in technical education creates individuals who can run companies competitively and are leaders. These are the views of participants 1 and 5, respectively, as they highlighted the role technical education played towards employability:

The role is to teach learners to be self-independent and self-reliant at an early age to become their own boss…. I do have learners who own businesses after graduating from school and some are in high positions in their fields. ***Participant 1***

Technical education makes persons experts in particular fields and so that they can start their own business or [become] self-employed, which in turn makes

them economically self-reliant. Economically self-reliant persons make society self-reliant and hence, make the country self-reliant. ***Participant 9***

In the same vein, one of the participants went on to note that technical education equipped students with real-life experiences, and this made them assertive in both the community and the country's economy. Students are identified at a young age and grouped to be leaders as per their unlocked potential.

The role of technical education in lower grades of schooling is to equip learners with real-world practical skills at an early age. For example, the child can design his or her project and become more independent by creating job opportunities for both him and community. It also assists to easily identify students with special cases at an early age, so when you engage with them practically and theoretically, then you channel them into the relevant field of education; that's why career guidance is very important at the early age of schooling. ***Participants 11***

4.4.3 Facilitates employability

Four of the participants expressed that having a technical education background during primary and high school increased an individual's employment prospects. The participants further noted that technical education teaches what is needed in the current world and equips students with the desired skills for the current industries. Technical education equips students for a certain career. consolidates their knowledge and connects them with companies in need of their services. This is what the participants revealed:

…. we have [a] shortage of skills and [a] high employment rate, so what we teach students here is what the outside world requires. ***Participant 1***

Yes, because high schools focusing on technical education often have more career advice to offer their students than schools that focus on their regular subjects in academics. This generally tends to include a larger amount of career advice sessions, skill development workshops, and their teachers being able to offer more advice to the students. Many high-end technical institutions have

connections with higher education institutions and companies that perpetually require fresh faces working in their technical divisions. ***Participant 10***

Other participants reflected on the creativity aspect of technical education, stating that students are taught to be creative and highly skilled for the labour market. The participants agreeably noted that a lack of technical education left a gap, which was the cause of the present unskilled youth and a rise in crime, especially in townships and rural areas. This is shown below:

Yes, of course, some students are more exposed to technical education, which gives them more advantages of acquiring practical skills and skills development, while others are not exposed to technical education, which leaves a gap of high unskilled youth, poverty, high crime rate within our areas, and high unemployment This also causes confusion among learners after matric, [about] which career to switch on to further their studies at universities and colleges. ***Participant 2***

I think the significance of teaching technical education in lower grades is that technical subjects support and develop creative thinking at an early age of schooling. It allows pupils and their parents to correctly recognise their professional orientation. Through this, children can achieve a harmonious and holistic development of their personalities, to make sure that their skills and talents can be best applicable in real life, as well as in the labour market. ***Participant 8***

4.4.4 Pave early career paths

Choosing the wrong career has been as common in the South African setting as in any other country, and it is usually too late to rectify the problem. The participants reflected that technical education offered the answer to this because students' career paths are paved at an early age, that is, during primary and high school. The student's strengths were identified and education capitalised on those strengths to equip the student with technical skills for survival. These participants were quoted as follows:

The significance of teaching technical education at a lower grade of schooling is that it points the learner in the right direction of their career at an early age to

develop what they are gifted in or interested in doing in life. By the time they get to high school, the child has been well trained and they know what they really want to do after matric. With the right skills, it gives the learners a sense of direction in their schooling life. ***Participant 2***

It exposed the child to his or her skills at the early age so that they peruse the field of study for which they have potential to perform better, other than a child is doing academic subjects until grade 12 and then deciding after matric to attend technical institutions and choose a field that he or she does not have background knowledge of a particular field and cause numbers dropout. Teaching technical education at the lower levels assists a learner to be well equipped about skills base subjects at an early age to assist them to choose the right field after matric or get employed or self-employed. It opens up many opportunities for a learner, for example, here in my school most learners actually leave this school knowing exactly which career field suits him or her. ***Participant 9***

The significance of teaching technical education in lower grade is that the talents of the learners are easily identified at an early age, it also assists with equipping learners with required skills for self-development and for survival, technical education also assists in closing the gap of shortage of skills, high employment, and poverty. ***Participant 3***

The participants further noted that to some extent, this has attracted the attention of governments, which strive to support technical education to reap its benefits.

The government is also making some initiatives to introduce technical education and with what others do, for example, automotive fixing cars, building houses designing, sports, agriculture and other technical fields are relevant, and it so happens that everything that is non-living is man-made. ***Participant 2***

4.4.5 Creates a competitive advantage

The participants also shared their views on the competitive advantage offered by exposure to technical education. Participants stated that technical education equipped

students with skills that set them apart from other students doing only academic courses and this made them more marketable in the employment environment.

This is what the participants had to say:

> *Technical education provides students with easy-to-access information, accelerated learning, and fun opportunities to practice what they learn. It enables students to explore new subjects and deepen their understanding of difficult concepts. Using technology inside and outside the classroom, students can gain 21st century technical skills necessary for future occupations.* ***Participant 3***

> *We are now living in an era of technology where we find the application of technology in every aspect of life. So, this gap can only be curbed with those possessing technical skills. Technology makes our daily life so easy that without it we feel discomfort. For example, currently, we are hearing that cars are to be electric now, so we need technical people to invest in such projects. The role of technical education is to promote manpower development and equip persons with skills that will enable them to create, develop and establish industry in various areas. It also promotes competition among manufacturers of goods and services which results in better technologies. Better technologies result in reductions in the costs of production of the product and increase the profit of the entrepreneur. More profits mean more money available to the entrepreneur, so they invest this money in the establishment of new companies or expanding existing plants. By doing so, they generate more employment and produce more and more goods and services which again increases the profits of entrepreneurs.* ***Participant 6***

Regarding the same issue, Participant 8 stated that technical education covers all the facets of human life and this makes an individual competition in all the demands of the work environment and life in general:

> *The role of teaching technical education at the lower grades of schooling is that it equips learners with practical skills at an early age, technical spatial imagination; technical, constructional, technological and technical creative*

thinking; understanding of the applications of scientific knowledge in the operation of technical equipment; user-commercial thinking (which people often use in purchasing technical equipment and using them, e.g. in households); information and habits of safe and hygienic use of technology in general; manual habits and skills (for the processing of commercially available engineering materials), including skills to safely use tools and technical aids, available in large stores. ***Participant 8***

4.4.6 Increases productivity

Almost all the participants acknowledged that technical education is associated with an increase in productivity, which in turn positively impacts the economy of the country. South Africa, as a country, has begun to recognise this, which puts those with technical education backgrounds in the spotlight to improve productivity. Participant 4 reflected that:

Technical education also helps in increasing productivity through skills, training, and better technologies. An increase in productivity means minimum wastage of resources, effective utilisation of the country's natural resources and more profit. More profit means more money in the hands of society and the country can grow and prosper. It also helps in saving the country's foreign exchange by effective and efficient utilisation of the country's natural resources.

Another participant on technical education boosting the economy of the country commented:

Since the world is pushing us toward the fourth industrial revolution, technical education is more relevant to the economy as it includes the teaching of designing, fixing, farming, building, drawing, mechanics and using other technologies and equipment to develop something. ***Participant* 8**

Participant 12 elaborated, stating that:

Technical education is an important tool for industrial growth and the sustainable development of any nation. Technical education helps in the reduction of unemployment, reduction in the country's foreign exchange bill

(because goods are produced locally due to better technical skills and trained manpower), reduction in poverty and social inequality in the society. It provides skills for living, learning and working, which is necessary for a responsible and good citizen of a country. The development of a country depends upon how it uses its natural resources.

4.4.7 Increase further education prospects

From the interview responses, it was also deduced that being exposed to technical education in primary and high school enabled individuals to pursue their further educational dreams. Technical education ignites creativity within individuals and prepares students for higher schooling, as per the participants' arguments below. Participant 7 commented as follows:

Well, the role of technical education in a lower grade of schooling is that it helps the learners to be geared up for higher education when it comes to choosing the scream like agriculture, electrical, mechanical, civil engineering, computer technology, etc. So, when they get to this level, they already have the background skills and knowledge about what is required of a particular field. I guess this can also decrease the repeaters rate at higher education, also technical education assists learners to be self-reliant by creating jobs for themselves and employing other community members at an early age.

On a similar note, another participant noted that, besides further educational prospects like in universities or colleges, technical education reduces the rate of dropouts even at the high school level itself.

It helps learners to discover their talents at an early age, it helps people to feed themselves, it equips learners with tangible skills that can eliminate poverty by creating jobs within the society, not only creating skills but also creating early manhood and lastly, I think it will decrease the dropout from lower levels of schooling. ***Participant 12***

4.5 Theme 3: Challenges in integrating technical education into high school curricula

The study found several challenges to the implementation or integration of technical education in high school curricula. As identified by the participants, these include:

4.5.1 Expensive to implement

The participants revealed that though technical education is beneficial, it is expensive to implement, especially in the high school environment or lower level of schooling. This, according to the participants, has caused technical education to be seen as more of a challenge than a tool to be utilised. Coupled with other factors, this factor is the major cause of the unsuccessful integration of technical education in high schools. Participants concluded that:

> *I think it is because technical education is expensive and the government is not willing to support such education due to its expense, also there is bad publicity about technical subjects and a lack of information among us in terms of the significance of teaching technical education in lower grades at school.* ***Participants 1, 14, and 17***

> *Well with that I can say it is not properly governed because we do not have adequate teaching and learning facilities we use old machines to teach our learners hence the cost of such school is very high because we sometimes have to buy our own teaching equipment or ask for donations from big companies there is less support from the government the department just produces a curriculum with less support our communities are poor they can't afford school fees for such education, I would really like to see technical education in lower grades being funded as they were during apartheid because the schools did not have to buy equipment for themselves and lastly such education should be accessible to everyone.* ***Participant 3***

> *Well for me technical education curriculum in lower grades of schooling is very important and I think the government must introduce it correctly this time. Even though technical education is expensive, the government needs to invest in it so things will be better economically.* ***Participants 16***

The participants' strong belief was that technical education needed the facets of all corners of society to be effective and successfully integrated. However, even bigger entities like governments reported being weighed down by their expenses.

4.5.2 Lack of parents and teachers support

The participants, still on the same question of the challenges to the integration of technical education in high schools, identified that the initiative lacked support from both the parents and the teachers. The participants noted that the parents' and teachers' lack of knowledge about technical education put them in a position to not support the idea of its introduction in the lower grades or high schools. This is what participant 17 had to say:

> *Parents need to have greater exposure to the significance of technical curriculum in the lower grades of schooling since this has made them ignorant of its implementation in high schools. They also need to support their children in education, teachers must work together with parents to develop a responsive curriculum.*

On the same note Participant, 5 had the following to say:

> *I think parents and teachers need to be aware of the importance of technical education curricula at lower levels of schooling and work together with the government to develop a responsive curriculum that is more relevant to the world. Without this, the whole process scrambles at the introduction stage.*

4.5.3 Lack of resources

All the participants agreed to the fact that resource scarcity was another major cause behind the challenges of integrating technical education in high schools technical education is expensive, which according to participants, makes the acquisition of resources for its implementation in high schools a major challenge. The participants further highlighted that many schools with technical education already lacked the resources, which made it a complete success in integration. Old equipment and out-of-date machinery were common scenarios in most schools, as per the participants' arguments.

> *No, we do not have adequate teaching and learning facilities, as for me, am still teaching my learners with old machines…. Yes, we do have computers not for*

all staff and for learners only those who have chosen ICT or CAT. ***Participant 1***

On a scale of 1 to 10, I would say our school is sitting at six because some of the learning equipment is very old and others are outdated so not all the equipment can be set to be equipment that will put the learners on the level where there are supposed to be. ***Participant 7***

Participant 7 further noted that the lack of resources makes educators appear incompetent and the students less knowledgeable about the technical field to derive sustainability from it:

Well, the answer is yes but unfortunately due to the lack of resources and the lack of content knowledge at times of the educators in the technical field we are not at the level where we can say they are self-reliant however there are far better than the person who has never been exposed to such technical education that we do here. ***Participant 7***

4.5.4 Lack of technical education knowledge

Three of the participants shared the view that lacking knowledge of technical education also affects its integration in high schools. The participants revealed that the concept still needs to reach national recognition in South Africa and that teachers are not well equipped for the change. This also goes for the parents. The participants expressed this as follows:

I think there is a lack of exposure and knowledge on teaching technical education in lower grades of schooling and the government is doing less in promoting and supporting such education in lower grades or it can be attending such schools is more expensive communities can't afford school fees for their children, we are not exposed to technical education as we should be. ***Participant 5***

I think there is not enough research done or there is less knowledge and exposure amongst the community about the importance of teaching technical education at the lower levels of schooling, for example at home I have a little brother who is only 12 years and he can fix the television, electricity, stoves and other electrical appliance. He was not taught by anyone and due to the shortages of technical education in lower grades, he's doing academic subjects. ***Participant 8***

Another participant elaborated, noting that the lack of technical education not only affects its implementation but also the family relationships at home, which might be beneficial to the new curriculum at school.

Well, I think the community has been deprived of seeing the advantages of technical education in lower grades, so if we bring back technical education in lower grades it will benefit the community and become involved in education and some will want to go back to school and technical education will create a bond between parents and their children's at home, for example, a child fixing electricity at home, fixing the car, stove, fridge, laptop, planting food for home and other important technical duties. ***Participant 10***

4.5.5 Late introduction to the curriculum

The late introduction of the technical curriculum in high schools is another challenge to its integration, as suggested by the participants. The participants argued that the introduction of technical education late into the schooling years of the individual makes the concept difficult to grasp and gain the popularity it deserves. Though it can all be traced back to the expensive nature of technical education, its late introduction has been characterised by poor integration, as identified by the participants.

Technical education curriculum in a lower grade of schooling is a good curriculum for learners to be taught at a younger age for skills development and other social benefits. However, we have less or non-technical primary here in Umlazi and we have fewer technical schools and technical education in high schools only starts at grade 10. ***Participant 13***

Another participant went on to reveal that the late introduction of technical education in high schools not only affects performance and its integration in high schools but also in institutions of higher learning.

They usually perform badly in their modules, some do not know how to use a computer so you must start back and teach them how to use a computer, this causes students to spend more years than required by the institution, for example, a diploma is a three-year qualification, and you will find students doing five years for a diploma qualification and blocking spaces for new entrance students. ***Participant 4***

Participant 5 on the same note revealed that students even go on to change their career path because of such future challenges:

They perform very badly, especially with the use of computers, for some, it is their first time to use or see a computer/laptop or other technical projects, which sometimes led them to fail many times, and sometimes they even quit such careers or switch to other career fields that are not technically orientated.

4.5.6 Lack of government support

The government, as the governing entity and responsible for the public high schools, has been identified by the participants as not giving enough attention and support to technical education. This has led to the difficult implementation of technical education considering, most of these governmental institutions need financial support.

> *The problem starts with our government's ignorance not supporting or implementing technical education curricula in lower grades of schooling, hence that is why we have few technical high schools, our communities are not well informed about technical education and theory education, and they can't differentiate the differences. Even our parents, do not even know what subject we do and why we do those subjects, for example, if I take accounting what career it will lead me to, lack of knowledge among the communities about the importance of skills development at an early age.* ***Participant 12***

> *I think it's because technical education is expensive and there is less support from the government side regarding funding such education. Some people believe that technical education is hard to grasp, there is less exposure to the significance of teaching technical education in lower grades of schooling and lastly, I think the community is not aware of such education curriculum due to lack of exposure.* ***Participant 3***

Another participant noted that it is the role of the government to make known to the larger population the importance of technical education for its successful integration. However, the government was found to be failing in this capacity, and this posed a challenge:

> *I think there is less exposure to such education from the government side, hence why the communities lack information regarding the importance of technical subjects, and we also do not understand the curriculum that our children choose in their schooling time, the only thing we want is them to become Doctors, Nurses, police, we do not have enough information regarding technical skills base education at the lower level of school.* ***Participant 4***

Participant 6 on the same note elaborated that the legislation lacks talk of technical education and its benefits and this is the domain of the government which it is neglecting:

We currently do not have legislation that talks about technical education in primary education, usually technical education starts at high school grade 10 or TVET colleges, however, we need to implement new legislation that acknowledges the significance of technical education in lower grades of schooling, especially in townships and remote areas.

In a slightly different vein, another participant acknowledged that there was a department that handled technical education and was giving it the full recognition, it deserved. So, the government was playing its part in the implementation of technical education. Participant 9 had the following to say:

They are very hands-on, that is, the department that is monitoring and supervising is doing very well in supporting technical education.

4.5.7 Rigidity to change

Change is not easily and quickly accepted in many spheres of life, especially in instances where the population is not sufficiently educated about its benefits. The participants noted this to be the case with technical education, revealing that the educators and parents were rigid to the new concept and preferred their old kind of learning and teaching, which they were already accustomed to. The associated benefits known about academic education leave technical education in the shadows. The participants commented as follows:

I think it is because our education system is designed to produce more academic students and if you have a degree, you are a top person, and I also think we do not have adequate information regarding the importance of technical education in the lower level of schooling, and lastly, technical education have bad publicity in our country. ***Participant 6***

I think there is less exposure to such education from the government side, hence why the communities lack information regarding the importance of technical subjects, and we also do not understand the curriculum that our children choose in their schooling time the only thing our parents want us to become, teachers, Doctors, Nurses, police, we do not have enough information

regarding technical skills base education at the lower level of schooling. ***Participant 11***

Since parents lack the knowledge and benefits of technical education, they prefer the kind of education they had, which led to the jobs they have. Consequently, they coerce their children down the same career path, which in turn, affects the integration of technical education in high schools.

4.5.8 Misconception of technical education

The participants also revealed that there is a general misconception about technical education. As noted by the participants, in the past, technical education has been associated with underachievers and those not able to get a university qualification. The misconception still prevails, and it makes it difficult for the technical curriculum to be fully accepted in many institutions, especially high schools.

Well, the problem is that previously technical education was seen as something that is for slow learners, so the perception that is created is that technical subjects are just vocational or vocational subjects where people are only able to use their hands which is so not true, technical education also includes theory, mathematics, physical science so basically there is that stigma around it and also some people look at it as something very difficult to know so people or learner will look and go for subjects that are just content base which is easy to do. There are also a lot of people who run away from mathematics-inclined subjects and lastly, we do not have adequate competencies regarding the role of technical education in lower levels of schooling. ***Participant 7***

Participant 9 further noted that the leadership is not making a significant effort to make known the benefits of technical education in order to dispel this misconception:

We need to have committed and competent leaders that are more aware of the paradigm that we are shifting toward and leaders who care about skills development among the citizen of the country, we need reliable, responsible, and accountable leaders to drive the required change. We also need to create awareness and create interest with all the role players in transforming the curriculum as such. Communities are not well informed about the significance

and the role of technical education in the world, lack of exposure to technical education among the communities, some believe that technical subjects are for those who are slow learners. ***Participant 9***

4.6 Theme 4: Approaches for growth and change

The participants revealed ways and approaches to implement technical education in high schools successfully, make it gather popularity and change people's perceptions about it. Various approaches were identified and presented below.

4.6.1 Change in school policies

The participants noted that there is a need for a change in the school policies to accommodate change and technical education. Technical education, according to the participants, should be given more recognition, with the curriculum being more inclined towards technical education. This is what the participants had to say:

> *Well for me I think we need to change the schooling ideology, schooling curriculum should focus more on training learners to be self-sustaining such as farming because if you can't feed yourself other nations will feed you, be creative, innovative, and invent new things. I think technical education curriculum should be implemented in lower grades of schooling in fighting poverty, skills shortage, high unemployment rate and other social issues. Lastly, people should be taught early about money matters such as cryptocurrency and investment, schools should have shops that are operated by learners and fixing computers for communities and the teachers will oversee their functions and the community should buy from these schools.* ***Participant 10***

> *The government needs to match technical education policies with needs assessment and proper planning, Government should conduct a needs assessment of the people and the country at large with respect to technical education in the lower grades of schooling and match it with proper planning before implementation. Policies on education made in haste will never give desired results. It would be better if policies are made in such a way that changes can be accommodated without disturbing the overall system. Proper*

planning will also help to avoid inconsistencies in policy decisions which could the hinder performance and success of technical education programmes, if the youth of the country are to be prepared for the anticipated radical in the world of work, there is a need for a plausible plan to overhaul the education system in favour of technical education in lower grades of schooling to enable the youths to secure their future. ***Participant 14***

Well, I can say we need the involvement of technical education professionals in VTE policy decisions, government must ensure that VTE professionals are involved in VTE policymaking decisions, planning and implementation. This is necessary because VTE professionals know the needs of the VTE programmes in terms of deploying human and material resources for effective implementation, monitoring, and evaluation. ***Participant 15***

The participants further recognised the need for schools to adjust their curriculum to accommodate technical education earlier so that it will not be a problem for many in the future.

I think we should have more schools that cater to technical education curricula, especially in lower grades of schooling, like in other countries to close the gap of skills shortages and other social issues. Quality education is the pillar of national development, it is through quality education SA will be able to create a strong and competitive economy that can effectively cope with the challenges of development, and which can also easily and confidently adapt to changing market and technological conditions in the region and global economy. ***Participant 5***

Most importantly, we need to get skills base curriculum at lower grades of schooling, we also need to introduce the use of computers at an early age as possible so learners can get much early exposure to technology because these kids are very good with their phones, as their phones are always available to use but when it comes to things like computers and other technical tools they do not have that much exposure hence why we have high skills shortages, high employment rate and other social issues. However, I believe this can change by exposing them to the quality of education that they need by linking academic

and technical education at an early stage of schooling this will create more entrepreneurs at an early stage and increase the quality of life for all, so as a result, we will not have to go out now and outsource engineers from other countries in the near future. ***Participant 7***

4.6.2 Involvement of competent leadership

The participants further revealed the need to have a change of leadership, identifying the need to have the kind of leaders well versed in the changing world and offering the anticipated competencies. Through this, according to the participants, technical education can thrive, and its benefits can be experienced, especially in remote areas of the country. The participants were quoted as follows:

Well, I think we need accountable and transparent leaders, we need caring leadership who wants to invest in the future of our country and citizens as a whole, particularly the Africans in townships and remote areas. ***Participant 10***

We need fearless leaders, leaders who are active to quickly respond to change when it is required. ***Participant 1***

The participants further revealed the need for the leadership to be still young and innovative and if need be, groomed from their school years to be successful drivers of the new change. This is what the participants were to say:

We need younger creative, innovative leaders who are visionary and fearless to change basic education and link tertiary curriculum with basic education curriculum. ***Participant 3***

We need the new knowledgeable leadership that will drive the required change in basic education, the government must expose technical education in lower grades of schooling, and parents should be more observant of their kids as they grow up to spot their talents at an early age, teachers and community should work together with learners as to what interests them more in education. ***Participant 8***

4.6.3 Participation of all parties

Five of the participants revealed the need for the participation of all facets of society for technical education to be effectively implemented in lower grades and high schools and its importance recognised. Various views were captured from the participants as follows:

> *Well, I think we need youth, parents, community members, teachers, government, and the private sector to work together to manage the required change in the curriculum, especially in basic education, especially in the townships and remote areas. We need schools like Ogwini Technical high school, Comtech High school, Velabahleke High school, these three high schools have been leading by example in producing quality learners in Umlazi, however, these schools do not have enough learning materials and other schools such as George Campbell School of Technology, however, this education should be implemented at the primary level of education, especially in townships and remote areas, the pass marks should be at 50% not 30% university pass mark start at 50% you get 30% you fail; we need to have a high standard of education.* ***Participant 11***

> *Well with that parents need to be able to guide and focus their child on the relevant curriculum however parents, teachers, learners, government and the private sector must work together to develop a responsive curriculum that addresses the demand of nature and economics.* ***Participant 10***

> *…. parents need to acknowledge and monitor their children as they grow and when they play as what they like and guide their children, and teachers, parents, youth, community members and government must work together to develop a responsive curriculum in lower grades of schooling, especially in townships and rural areas.* ***Participant 17***

> *Parents, communities, teachers, government, private sector, and varsity lecturers need to work together to formulate a responsive curriculum in a lower grade of schooling because this is where everything starts, if we fail at this stage everything will go wrong. We also need to educate one another on the trends*

of education across the globe, especially in the lower grades of schooling, we need to do thorough research regarding the importance of technical education at lower levels, and teachers need regular training on technology and new ways of studying, for example at university, learners are now being taught via Microsoft teams or zoom something which can also be implemented in basic education. ***Participant 12***

On the same note, the participants hailed the collaboration of the various entities of society for technical education to fully materialise in high schools. Participants 3 and 13 were quoted saying the following:

We need a well-collaborated society, government, private companies, and learners to work together when formulating an educational curriculum that will respond to economic needs and self-development, and educators must also be well-trained to teach such education. ***Participant 3***

Well parents, they just need to support their children and work hand-in-hand with the teachers. However, teachers have more responsibility for teaching learners relevant curricula that encourage skills development and self-reliance at an early age. ***Participant 13***

4.6.4 Make technical education compulsory

The participants again revealed the need to make technical education a priority in all the country's schools. They argued that this should not be a privilege of a few schools considering the importance and relevance of technical education in the current work environment. Participants 11 and 16 were quoted saying:

For me I would suggest that the technical education curriculum should be compulsory for all starting from primary education to grade 9, then from grade 10 learners can choose their field of specialisation that they want to continue with to grade 12 to bridge the gap and fight social issues. We really need a curriculum that will teach our kids skills based at an early age that will assist in boosting the economy of the country.

On the same wave participants, 13 and 14 had this to say:

I think technical education in lower grades should be compulsory and accessible to everyone in closing the gap of skills shortages and fighting other social issues like high unemployment and the learners would not have to rely on the government to provide them with jobs or grants.

Another participant revealed the need for the government to draft policies, which accommodate more technical education and enforce it as a basic part of academic education in South Africa.

I do not have any legislation in mind however it is a must for the government to implement technical education curriculum policy in basic education from primary to high school and it must be mandatory in lower grades of schooling, especially in townships and rural areas. ***Participant 1***

4.6.5 Exposure to technocrats

People with knowledge of technical education were identified as essential in the understanding of the curriculum and changing the perspective of communities that have yet to recognise the importance of technical education. The participants argued that technocrats were to view schools or hold workshops to conscientize people about technical education, hence making it a success. The views of the participants are captured as follows:

We need those highly technical-oriented people to come to our schools and motivate learners on the significance of technical education as a whole and bring practical scenarios to learners, for example, the importance of farming, why do we farm? We need leaders who lead by example. ***Participant 11***

The participants further revealed that to make students technocrats, there is a need for the educators themselves to be more knowledgeable of the technical curriculum. The participants argued for the need for workshops to teach educators more about technical education.

We need to expose more educators to more practical workshops and industries so that what they are teaching the learners at lower grades they are always practising and be able to get the learners more interested in the kind of

education that they could be pursuing in the later stage. We also need university or college leaders to come and work with us when we formulate a basic education curriculum so that the learners may meet the required points and skills to enter varsity if they wish to do so after completing grade 12 and lastly, we need support from the government and private businesses to fund the required change in the basic education. ***Participant 7***

4.7 Discussion of findings

This section of the chapter aims to discuss the study's main findings concerning the available literature, theoretical framework, and previous relevant studies. The main themes identified from the objectives and the results of the study are discussed. These themes entail the nature of technical education content in high school curriculums, the importance of technical education exposure to employability, challenges in integrating technical education in high schools, and approaches for growth and change.

4.7.1 Nature of technical education content in high schools' curriculum

The results derived from the participants' responses showed that there is a great difference between technical and basic education, and technical education offers a more hands-on experience that is beneficial to the students. The results deduced that practical subjects were the focus of technical education and that less emphasis was put on theory. In agreement with this is the U.S. Department of Education, which acknowledged the practicality of technical education, though it did not dismiss the involvement of theory in the curriculum. Subjects like carpentry, agriculture, automotive technicians, and technology were listed by participants as part of the technical education curriculum in high schools. Adelk (2019) is of the same view and has the same list but he added entrepreneurship, trade, and industry to this list.

In addition, the results revealed that technical education in the curriculum of high schools is all about learning the skills that are essential and relevant to the outside world. The participants argued that technical education aims to identify talent early on in students and equip them with skills for self-sustainability. Lister (2016), being of the same view, notes that there is a need to have skills relevant to the current work environment, and technical education makes that possible. Thus, from the literature, Asian countries were found to embrace technical education in high schools for their

skill development initiatives, with countries like Singapore benefiting from it (Lister, 2016).

The findings further revealed that competency is the basis of technical education and also strives to impact the student's basic skills. The results indicated that students excelled even in basic education if they had technical education experience, a fact that the literature failed to capture. Thus, technical education did not build only students' competencies and skills but also fundamental skills. As Mothalo (2017) revealed, engineering, management, architecture, planning, and applied sciences are all included in technical education, but the participants were not exposed to them.

4.7.2 Importance of technical education exposure to employability

The results have revealed that technical education exposure offers a student a plethora of benefits, especially being marketable and employable. The results also revealed technical education is important in other spheres of the country. The results are discussed below.

The results disclosed that technical education promotes the creation of entrepreneurs and bosses, hence the creation of more jobs and the self-sustainability of the individual. The participants were of the view that through technical education since one is equipped with basic life skills for survival, even in the absence of employment prospects, an individual can be self-employed and run his or her own business. The participants also revealed that with a technical education background, which includes basic life skills, they would survive, despite the high dropout rate of students.

Atagana and Henri (2022) on the same note pointed out that the introduction of technical education in high schools resulted in unemployment reduction as entrepreneurs were moulded despite being unable to be employed by any organisation. Due to their technical education background, youth in Kenya were able to become self-employed, resulting in a reduction in unemployment. (Atagana & Henri, 2022). Manikandan (2016) further elaborated that the dependent syndrome is quenched as technical education promotes self-employment and the youth even contribute to the country's economy. So, both the literature and the participants agreed on the importance of technical education.

Eichhorst et al. (2015) point out that the change in the work environment has necessitated the implementation of technical education in high schools because it creates competitive students for the 21st-century industry. The results revealed that the prospects of employment are higher for students with technical backgrounds, as it is the answer to the current industry's call. The participants also indicated that technical institutions are well-connected to companies already waiting to recruit their students. This then makes job searching easier and offers a competitive advantage over a student with only basic education. Evidence from the literature has identified a larger percentage of those completing academic schooling with challenges in job searching (Gambhi et al., 2016; Manikandan, 2016). They were identified as lacking the practicality and expertise the world needed, which those with a technical education possessed. Also considering the changing world, technical education offers an education that is not replaceable even by machines; hence, this gives students with a technical education a competitive advantage and more employment prospects (Atienza, 2022; Excelsior, 2015).

On the same note, from the constructivist learning theory's point of view, knowledge is viewed to be contextual and is defined by a change in the environment, whereas effective learning is defined by experience or practicals. The results indicated that technical education offers a practical aspect and changes the environment to suit the requirements of the current era. This creates a competitive advantage and students are never short of the desired skills as technical education is always transforming with the world's requirements (Atienza, 2022).

In addition, the results revealed that technical education paves students' career paths earlier when introduced in high schools, which is paramount. The results revealed that student's potential is recognised early and consolidated, shaping their future. In the same vein, Allais (2021) recognised how essential it is to build on the student's potential earlier in life to avoid the challenges of incompetence presented with a basic foundation only. A drop in the unemployment statistics in South Africa revealed the compulsory nature of technical education imposed until grade nine, so even if students dropped out of school earlier, they manage to be self-employed or employed as their career path was already determined (Sithole, 2019). Technical education was found not only to provide raw knowledge but also to set career paths that were successful

most of the time (Manikandan, 2016). Thus, technical education equips students with skills already desired by various industries (Carruthers and Jepsen, 2020). As per the argument of the behaviourists, there are sub-skills a person is expected to have that must be identified and exposed to the proper stimulus to be consolidated (Ertmer & Newby, 2013), which in this case, skills only technical education can unlock, benefit the student.

Moreover, from the results, it was observed that having technical education or background increased productivity. The increased competence, knowledge, and expertise of those with technical education backgrounds were revealed by participants as impacting positively on an organisation's productivity and the country's general economy. Atagana and Henri (2022) echoed the same sentiment, acknowledging that technical education had a positive bearing on increased productivity and the nation's development. This is due to the creation of manpower skilled in the industry's requirements. It is now widely accepted that technical education primarily aims to meet the demands of the labour market to enhance productivity. Thus, it plays a pivotal role in increasing productivity and developing countries.

However, contrary to the results, literature has also brought out that basic education plays more of a part in employment than technical education. Empirical evidence from an African perspective has shown that academic education in high schools has more importance than technical education (Kamate, 2020). Secondary education was found to produce the right amount of required personnel over technical education, which was flooding the market, as evident in Mozambique (Zanzu, 2017; Kamate, 2020). South Africa has also witnessed basic education empower more South Africans and pave the way for their jobs (Filmer et al., 2020). However, in the South African context, the true extent of the benefits technical education has to employment may be overshadowed by people's ignorance of technical education, indicating the need for improvement.

4.7.3 Challenges in integrating technical education in high schools

The results revealed the challenges encountered, which are a hindrance to the successful integration of technical education into basic education. The major challenge that the participants identified was the expenses associated with educational

technology. The participants noted that technical education was expensive to implement in terms of equipment needed, training the staff and resources needed in general. Allais (2021) suggested the same, arguing that many nations did have the zeal for technical education but could not finance the expenses. Sithole (2019), on the same note, revealed that the South African government had set in motion initiatives to vocationalise and introduce technical education in many of the schools but fell short of the money to see this through. The facilities and equipment proved to be expensive, hence a great challenge, and the results from studies in Nigeria and Zimbabwe also support this assertion (Gwaa, 2017).

The results further revealed that technical education lacked the support of both the parents and the teachers in its implementation. From the results, parents were unsupportive of what they were not knowledgeable of, and the teachers feared what they did not know, which was coupled with resource scarcity. Kamate (2020), in the same vein, noted that basic education continued to thrive in Africa since many institutions lacked the knowledge to implement technical education. African rural areas were found to be more affected considering internet problems were common occurrences, basic facilities for learning were scarce and there were no enticing incentives for educators (Ndamase, 2004; Yaka, 2005; Zwelandile, 2016). This problem prevailed in South Africa, necessitating the implementation of challenges in technical education. Chirairo (2018) in his findings, further commented that in Africa, most educators have diplomas qualifications that are not fit for technical expertise hence they are underqualified. Furthermore, studies have shown that obtaining the experience and education needed for technical education was expensive considering one had to travel from his or her home country, thus the lack of experienced personnel in technical education in African countries persists (Ismail & Abiddin, 2014; Hanapi et al., 2015; Nakamba, 2016).

As alluded to earlier, the lack of technical knowledge led to its unpopularity, and people preferred a curriculum for which they had witnessed the benefits. A study from India revealed the same sentiments and noted that parents and students did not want to venture into things they were not fully educated about Chakravarty and Gupta, 2020). There is a need for motivation and career guidance to make the importance of technical education known (Omar et al. 2020). Thus, as per the argument of

behaviourists, it is another person who motivates the next person to a desirable thing or behaviour, and motivation can lead to any behaviour that is desired (Anderson, 2015).

In addition, the results revealed that technical education was introduced a bit later in high schools hence the impact was lower than anticipated. Participants argued that it would be difficult to teach technical concepts to students accustomed to academic learning which also supported rigidity. The constructivists on the same note argued that knowledge is constructed through earlier experience to create a unique personal reality (Glasersfeld, 1998). Hence from earlier experience rigidity to change cannot be experienced. Mandishe (2019) on the same note maintained that in many African countries, the shift from academic to technological subjects was always a challenge. The slow pace of technological growth in countries like Nigeria and Zimbabwe made them rigid to change and incapable of introducing the technical curriculum, which was a challenge, earlier. Thus, the result is the unsuccessful integration of technical education in high schools.

More so, literature on rigidity to change has noted it to be a major blow to technical education integration, as the study's results also revealed. Studies in Europe have shown that the South preferred high school education over technical education, following the majority view in favour of such education and being rigid to change (CEDEFOP, 2017). Research in Africa brought out that conventional education was favoured over anything else (Chakravarty and Gupta, 2020). Change is not easily welcomed. Thus, according to Dyrin et al. (2021), parents were found passing this belief down to their children, who were seen as preferring an academic degree to pursuing technical education even from high school.

The government was found not supportive enough of technical education whereas many countries rely on their governments for financial assistance or funding. The results revealed that the South African government had no measures in place to push forward the technical education initiatives. This is a scenario in many African countries also where politics interfered with everything including education (Atanga and Henri, 2022). Studies in Botswana and Zimbabwe have revealed less importance given to programmes in technical education. This undoubtedly affects its implementation in high schools. Technical educators were then found not in a position to negotiate

funding and financial aid from these policy makers. Studies in Cameroon, The Democratic Republic of Congo (DRC) and Burkina Faso, also revealed the same results with the ministries in place following short of implementing technical education. Hence the whole idea of technical education was defeated.

The literature has revealed a misconception about technical education. Eichhorst et al. (2015) in their study, revealed that technical education was a second choice to many, as it was viewed as fit for those who were not academically able. The results of this study reflect the views of the participants who felt that most people associated technical education with slow learners and those not able to afford a degree qualification. Due to this, talks on technical education in high schools have remained more theoretical than practical. This misconception has shadowed the reality that technical education paves more career paths than academic or basic education (Gambhi, Wadhwa & Grover, 2016). As constructivists argue, a misconception is difficult to undo unless through experience, which is not given a chance in this scenario due to the dominating misconception. Thus rigidity, fear of change and lack of support have given birth to such misconceptions, which, if not dispelled will negatively impact the popularity of technical education.

4.7.4 Approaches for growth and change

The results revealed several ways in which the implementation of technical education can be successful, ways to make technical education more recognised and changes that can be made to improve its success.

The participants revealed that there was a need to change school policies so that they accommodated more of the technical curriculum. Participants argued that policies about education in South Africa should be revised to recognise technical education from a young age so that the student's career paths can be quickly identified and supported. Studies in the United States from the early 1990s have proved this to be successful, following their implementation of this idea early and seeing its benefits to their students' future work lives (Lister, 2016). Literature has revealed that South Africa's educational policies did not match labour and demand (ILO, 2018), and since these are the results identified from this study also, there is a need to revise these policies.

The results revealed that there was a need to involve all parties when it came to technical education, from its development to its implementation stage. From the results, the teachers, parents and students had a pivotal role to play to ensure the full recognition and competency of technical education. Thus, the participants advocated for the identification of leaders who are still young, innovative, and knowledgeable to push forward technological advancement and technical education needs. Literature has shown that the apartheid era had created divisions and injustices that favoured and benefitted the white minorities even in its educational policies (Ndamase, 2004). It is such injustices that the participants felt still cling to some aspects of South African lives and technical education be made available to all, including the rural areas.

The participants again advocated for technical education to be made compulsory to drive the South African nation and economy forward. The results revealed that this should be ensured from those still in the junior level of secondary to the seniors. The behaviourist learning theory seems to echo this same sentiment, as it emphasised that successful desirable behaviour must be forced on someone, hence the end outcome is not voluntary but designed for the individual (Anderson, 2015). Also, as per the behaviourist's argument, where rewards are involved, a certain outcome is to be finally accepted (Skinner, 1990). The issue of technical education being made compulsory will compel communities, schools and even parents to see its benefits and then finally embrace it.

Skinner (1990), in the behaviourist theory, argued that the environment has a bearing on behaviour. The more positive the environment is, the better the outcome of the end behaviour. The results alluded to the same fact, noting that technocrats were needed to influence a positive outcome in the world. People, schools, and institutions needed technocrats to educate them about the importance of technical education. This may be through workshops or seminars. Thus, technocrats should be part of the equation for the success of the implementation of technical education in high schools.

4.8 Conclusion

The findings of the research were presented, analysed, and discussed in this chapter. The study investigated the significance technical education has in South Africa's basic education. The key themes derived from the study's objectives and the responses of

the participants were measured against the existing literature and theoretical framework that governed this study, which consolidated old findings and provided insight into new ones. The following chapter concludes the research and offers recommendations.

Chapter 5

Conclusion and Recommendations

5.1 Introduction

The summary and conclusions of the research are presented in this chapter. The data on the subject matter has been analysed and discussed, so this chapter will offer recommendations based on these findings. Thus, the chapter strives to unveil the extent to which the objectives of the research were met following the analysis and discussion stages. The chapter will start by summarising the research objectives and questions, followed by a summary of the findings and conclusions of the study. Relevant recommendations will be offered before ending the chapter with a conclusion. The study's main objective was to investigate the significance of technical education in basic education in Umlazi, Durban, South Africa.

5.2 Summary of the research objectives and research questions

The study aimed to explore the significance of technical education in the high school curriculum in Umlazi, Durban utilising theories like the behaviourist learning theory and constructivist learning theory and the Umlazi community to achieve the study's objectives. Table 5.1 below provides a summary of the research objectives and questions.

Table 5. 1: Summary of research objectives and research questions

	Research Objectives	Research Questions
1.	To examine the nature of technical education content of the curriculum of high schools in Umlazi, Durban	What is the nature of technical education content in the curriculum of high schools in Umlazi?
2.	To explore the importance of exposure to technical education during high school to increase the prospect of employment/self-employment.	Does exposure to technical education during high school increase the prospect of employment after leaving school?
3.	To identify the challenges in the integration of technical education into the curriculum of lower grade levels in a high school in Umlazi.	What are the challenges in the integration of technical education into the curriculum of lower grade levels in high school in Umlazi?

Seventeen key participants with knowledge of technical education were utilised for the study in order to address the objectives of the research. The study took a qualitative direction; participants were purposely selected, and semi-structured face-to-face interviews were conducted. Data were thematically analysed, gleaned themes identified and assigned headings. The data was explored and discussed against the existing literature and theories. The findings proved to be representative enough of the research questions.

5.3 Summary of study findings

The research explored the significance of technical education in South Africa's basic education, looking at a few selected schools in Umlazi, Durban and engaging the Umlazi community. The summary to follow is a brief insight into the presented findings, which are based on the four key themes identified from the objectives and the participant's responses.

Theme 1 summary: Nature of technical education content in high schools' curriculum

The study found that technical education entailed a more hands-on approach, which set it apart from academic education. The study revealed that theory was less common in technical education and a practical approach was more common. Subjects like welding, agriculture, automotive, electrical technology, mechanical technology, sports, art, and civil engineering were identified as being part of technical education. It is worth noting though that the issue of theory was not completely out-ruled as the practical aspect of technical education also came from theory.

The study also found that technical education aimed to enhance the skills of a student from a young age which made him or her competitive over the other students. Therefore, even in academic results, students with a technical education background were found to excel more than those who only focused on academics. From the findings, technical education also had a positive bearing on the basic education of a student.

Theme 2 summary: Importance of technical education exposure to employability

When it comes to the importance of technical education exposure to employability, several factors were identified in the study. The study found that exposure to technical education moulded entrepreneurs and independent bosses. The practicality of the nature of technical education ensured that students, including those who would not have completed their grade 12, were self-sustainable as they could survive on their technical skills. On the same question, the study found that technical education equipped students with rare skills in the market demand of the twenty-first century. Hence, this made them more employable, as the technical schools were also found to be well connected to industries in need of their skills and competent students.

Furthermore, the study revealed that technical education paved early career paths, especially in instances where it is introduced earlier in junior high schools or primary education. The study found that technical education is aimed at identifying and upgrading a student's skills. This, in turn, was revealed to create a competitive advantage where a student fits into the fourth industrial industry and can pursue further

technical education qualifications without any setbacks. In addition, the study found that technical education equips students with skills never short of those needed in the outside world, which has been found to directly enhance productivity in organisations and growth in the country's economy.

Theme 3 summary: Challenges in integrating technical education in high schools

The study revealed the challenges associated with the integration of technical education in high schools. Among the major findings was the expensive nature of technical education. The study found that the facilities and equipment needed for technical education were expensive and many entities could not afford them. The study again found that many schools relied on the South African government for financial aid, which did not come through because the government was not supportive enough of technical education even in its policies. Thus, schools were found short of the required funds for technical education.

More so, the study ascertained that the teachers and the parents were not supportive of technical education, which made it unpopular even with the students. The study established that, because of a lack of knowledge of what technical education entailed in the South African context, the teachers were not equipped to support technical education. Technical education was found to be scarce in Africa and so there was a need for one to leave one's country, which became expensive. The study found that the teachers did not want to charter in waters they did not know, and the parents did not want to encourage their children to partake in a type of education they had no experience with. Hence, academic education was supported more than technical education.

In addition, the researchers discovered that rigidity influenced changes in technical education and misconceptions about technical education increased over years. From the research findings, the issue of technical education was associated with underachievers, those who cannot afford university degrees and is a second option, it was not successfully accepted in high schools' curricula. Though the study found associated benefits to technical education, its integration in high school was found to be a challenge that all facets of society were expected to come together and rectify.

Theme 4 summary: Approaches for growth and change

The study found different views from the participants on what leads to the successful integration of technical education in high schools or primary schools and ways to make it more popular. The research found that there is a need for a change in educational policies to accommodate technical education early in high schools or lower levels of schooling. The study further found that schools should be able to adapt accordingly and recognise the importance of technical education to their students.

The research also found that all the facets of society were to be made part of the curriculum design and implementation of technical education for its successful integration in high schools. This meant the involvement of parents, teachers, youth, the government, the private sector, and the policymakers themselves. The study found that technical education should be made compulsory to ensure that those who drop out of school early have some skills for survival and those who do pursue education are to become assets to industries or entrepreneurs. The study again found that technocrats were to be utilised to educate people about technical education and its benefits, and that leadership should be changed to include only those who are young, innovative, and knowledgeable of technology and technical education.

5.4 Recommendations

The following recommendations are based on the study's findings and may be used to improve how technical education is approached in the South African context.

- There is a need for binding policies that support the implementation of technical education in both high schools and primary education, making the curriculum compulsory.
- Workshops and seminars should be arranged to educate the students, parents, and teachers about the importance of technical education to reduce resistance to change.
- The government of South Africa should be more supportive of technical education initiatives, funding them accordingly and setting aside a significant budget for them.

- Online platforms and the media should also be utilised to quickly spread the importance of technical education, reach a larger population and eradicate misconceptions associated with technical education.
- Funding should be made available to those seeking further technical education outside the country to increase the pool of technocrats in South Africa.
- Quality and adequate learning facilities should be made available and protected 24 hours a day, not by one or two guards but by as many guards as possible, just like how universities operate in safeguarding their learning resources.
- Rural schools are not to be left in the shadows of development and should be afforded knowledge in technical education.

5.5 Areas for further research

- Further research should focus on strategies that can be implemented for the successful integration of technical education curricula in high schools and primary schools.
- Other research instruments or research approaches can also be used to carry out the same study, in a different research location to increase the knowledge base.

5.6 Conclusion

The research consists of five chapters. The first chapter introduced the research topic and its justification, and a brief background was offered on technical education and the objectives of the research were outlined. The existing literature on technical and basic education was covered in the second chapter. The literature related to the study was explored and the key theories were also given in detail. The third chapter outlined the methodology of the research, revealing the qualitative nature of the study. The presentation of the findings, analysis and discussion was carried out in the fourth chapter. The fifth chapter is the final chapter of the research, with the study's summary, conclusions, and recommendations.

Following all the evidence presented and discussed, it can be concluded that in Umlazi, technical education and its benefits are yet to be fully realised. The experts and people knowledgeable in technical education managed to identify various benefits associated with technical education, which, of course, were not exercised in South

Africa. The government and general population of South Africa lack knowledge about technical education, are not supportive of the initiative and find technical education expensive. However, it is worth noting that the South African government has started to prioritise technical education and is trying to draft policies to benefit its people. This study sought to explore the significance of technical education in basic education and the available findings managed to address the research questions.

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