INTERNAL STAKEHOLDERS' PERCEPTION TOWARDS EMBEDDING E-LEARNING AT A TVET COLLEGE IN MPUMALANGA PROVINCE

by

JOHANNES ELVIS ZWANANGAYE MAHLANGU

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40671771

DECLARATION

Name: Johannes Elvis Zwanangaye Mahlangu

Student Number: 4067-177-1

Degree: MEd in Education Management

Title: Internal stakeholders' perception towards embedding e-learning at a TVET college in Mpumalanga province.

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

I further declare that I submitted the dissertation to originality-checking software and that it falls within the accepted requirements for originality.

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

25 November 2022

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SIGNATURE   DATE

DEDICATION

This research is dedicated to the Almighty God, my family and my in-laws, my beloved wife, Mmamokgethi Josina Mahlangu, my lovely mother, Nomagijima Saritjie Mthimunye, elder brother, Sam David Mahlangu, and his wife, Thembi Adelaide Mahlangu, as well as all my brothers, sisters, and nephews, who always pray for and encourage me. Their fervent prayers kept me focused and committed to my studies. Finally, I would also like to thank them for their constant wishes in the name of our Lord Jesus Christ

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ABSTRACT

The world is experiencing the Fourth Industrial Revolution (4IR), and everything in it is technological. The question that Technical and Vocational Education and Training (TVET) colleges should be asking themselves is, "Is the TVET college ready to transition into the Fourth Industrial Revolution?" Most TVET colleges would respond positively because, to some extent, they are adapting to new technology for effective teaching and learning. This further raises another questions of how South African colleges' key functions, particularly those related to teaching and learning, should be transformed to better prepare the future workforce for the 4IR. The introduction and implementation of e-learning, on the other hand, have been fraught with difficulties. This study seeks to identify these challenges and gaps in the TVET college, as well as how these gaps can be minimised. To develop strategies for the proper implementation of e-learning in the TVET college, one must consider how to transition from face-to-face to online learning. The study will employ a research methodology to find a possible solution to the challenges of e-learning implementation. Interviews will be conducted with participants to learn how to integrate e-learning into teaching and learning. The study wanted to know if there were any issues with students and lecturers accessing available computers during online teaching and learning. The study also seeks to determine whether there are enough simulated classrooms for use by students and lecturers in college, as well as whether there are any issues with the use of data and internet connections for effective teaching and learning. The study revealed that the college's management had a significant role to play in eradicating or eliminating all these challenges and ensuring that infrastructure is in place for the proper implementation of e-learning and its use in the college. The study further revealed that the management of the selected college had a huge role to play in the eradication or doing away with all these challenges, to make sure that infrastructure is in place for the proper implementation and usage of e-learning in the college. The study also aimed to identify the factors that influence the integration of e-learning into TVET colleges such as internet connectivity in simulation classes, data distribution to students and lecturers, and effective online teaching and learning in the college. One of the recommendations was for the college to employ a programme manager who would oversee the programme's day-to-day operations. All internal stakeholders in the TVET college viewed the implementation of e-learning in a positive light

KEYWORDS

TVET colleges, e-learning, students, lectures, internal, stakeholders, fourth industrial revolution.

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

TVET	Technical and Vocational Education and Training
ICT	Information Communications Technology
HEFCE	Higher Education Funding Council for England
DFES	Department for Education and Skills
HOD	Head of Department
CE	Concrete Experience
RO	Reflective Observation
AC	Abstract Conceptualisation
AE	Active Experimentation
NC(V)	National Certificate (Vocational)
UNESCO	United Nations Educational, Scientific and Cultural Organization
FRN	Federal Republic of Nigeria
CBD	Central Business Development
PDF	Portable Document Format
WHO	World Health Organization
NQF	National Qualifications Framework
NATED	National Accredited Technical Education Diploma
IT	Information Technology
NSFAS	National Student Financial Aid Scheme
LMS	Learning Management System
DHET	Department of Higher Education and Training
4IR	Fourth Industrial Revolution
COVID-19	Coronavirus disease

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<center>**CHAPTER ONE**</center>

1.1   INTRODUCTION

According to Waghid (1996), distance learning has been part of the South African educational system for many years. Currently, the number of online courses offered to students in the Department of Higher Education and Training (DHET) has increased. This shows the necessity to better understand the effectiveness of online learning in improving learning at a TVET college in Mpumalanga province. Online learning can be flexible and convenient and has benefits for non-traditional students and lecturers (Matthews, 1999, Richardson, Swan, Van Shaik, Barker, & Beckstrand, 2003, Lee, Cheung, and Chen, 2005). Seen in this light, online teaching and learning can increase enrolment and reduce the overhead from teaching traditional courses at a TVET college (Matthews 1999).

There is a need for online course offerings at TVET colleges as an alternative delivery format for teaching and learning (Allen & Seaman, 2008). Since Covid-19 has interrupted teaching and learning for the 2020 academic year, there is a high demand for the use of online learning at TVET colleges. According to Parry (2010), the use of online learning makes the utilisation of technology continue outpacing the old style of education delivery, and online enrolment in higher education institutions in South Africa has thereby expanded steadily over the past years. Online teaching and learning at TVET colleges have created a practical way to help students to participate in learning that enriches their educational experience and motivates them to complete their qualifications. The country is faced with a crisis of Covid-19 which affects the progressive and traditional way of learning at a TVET college. Therefore, TVET college students can easily have access to the information they need at their disposal with the aid of e-learning. This research introduces important principles for online learning for both students and lecturers at TVET colleges, and informs and enhances them with fundamental principles based on an understanding of the definition of online instructions. It will also synthesise important matters that need to be considered in planning and implementing online education programmes at a TVET college in Mpumalanga.

Brown (2005) establishes that since the introduction of internet-based education, there has been a rapid improvement in student learning outcomes. e-Learning is achieving success in South

Africa, and TVET colleges need to move in this direction, to embrace a more emancipatory approach by presenting technology-based education to TVET college students. TVET colleges are places where students enrol to acquire knowledge and skills for the world of employment. They are also the key to the development of skilled manpower that is needed to meet the challenges, especially in technological advancement, of the rapidly changing world, (Afeti, 2010). Distance learning is also implemented in the TVET colleges for the advancement of the skills they offer.

There has been some growth in e-learning and distance education in South African TVET colleges. Computer technology has emerged very quickly in the country's most higher education institutions like TVET colleges, private colleges and universities. However, managing online courses is still a challenge.

e-Learning can encounter different kinds of challenges that can be difficult for new students to adapt to new technology when teaching and learning take place online. Indeed, what is obvious today is that the chalkboard is slowly disappearing, and classrooms are no longer the priority as this technology is emerging day by day. These days, TVET college students use all types of technological devices such as iPhones, iPads, laptops and smartphones for online teaching and learning. This enables the students to download other references for their research projects wherever they are. Nowadays, online learning is not an option, but a need for effective teaching and learning for students and lecturers at the TVET college.

The Bologna Process (2010) of 1999 has had a profound impact on the delivery of high-quality education, particularly in the TVET sector. Since then, there has been progress in effective teaching and learning in the TVET college sector, which has gone from strength to strength over the years. It is important that learning and teaching in the TVET college change from lecturer-centred strategies and embrace student-centred approaches, due to the increased number of TVET college students who have different learning abilities.

Online learning is one of the ways of teaching and learning approaches at TVET colleges. It is slowly replacing the face-to-face way of approaches and is moving in favour of a computer-generated environment where each student must be able to work at their own pace.

Online teaching and learning create a practical way to help students to participate in learning to enrich their educational experience and motivate them to complete their qualifications at TVET college.

1.2   BACKGROUND TO THE STUDY

The main goal of any TVET college education is to promote and support the lecturers and students in teaching and learning. Online education in a TVET college must follow and be grounded in good learning theories (Wa-Mbaleka: 2013). For that to take place in the TVET college, lecturers and students must receive some training about e-learning theories that work in online learning settings. Online teaching and learning focus on content that is appropriate to the needs of the students and motivates them to play an active role in online learning processes. The researcher will evaluate the progress of lecturers' online teaching and when the online course is facilitated. Lecturers and students had to be acquainted with the use of computers for the smooth progress of online teaching and learning.

Since the beginning of the Covid-19 pandemic in South Africa, which resulted in several stages of lockdowns, e-learning has become common in South African TVET colleges. Mpumalanga TVET College has begun to use online learning for their students (National ICT Development Strategy, 2006). Among international institutions, the University of Sydney is systematically supporting students' learning experiences with e-learning activities and materials. According to HEFCE, (2005), e-Learning is defined as the use of information and communication technologies (ICTs) that enable students' learning. E-Learning has been tested at the selected TVET college since the beginning of Covid-19 to make lessons, tasks, and study materials available to students. The college uses computers in some form to help with teaching and learning. TVET College hosted online workshops for teaching and learning. The fact is that internet-based education is permeating tertiary institutions, and these and other factors have brought about changes to the key objective of tertiary learning and teaching (Biggs & Tang, 2011). Studies have shown that e-learning has been adopted in South African institutions of higher learning, particularly TVET colleges.

Since the 2020 level 5 lockdown, TVET College in Mpumalanga has adopted an online teaching and learning culture for students and has continued to conduct online teaching and learning. This research will result in higher quality learning and teaching that is aligned with expanded national needs, particularly in science and technology, at the TVET college in Mpumalanga. The study indicates that students are willing to use e-learning at the TVET college (Gaffar, Singh & Thomas, 2011). Online teaching and learning had rapidly become a

famous name in the selected TVET college. Various e-teaching software is being explored by lecturers or instructors to bring maximum possible ease for their students.

According to Piccoli and Thurmond (2001, 2002) cited in Arbaugh (2002), students are not afraid of computers, and to be successful in their studies, they need a positive attitude towards online teaching and learning. The lecturer dimension emphasised the importance of having a technology-savvy and appropriate responding lecturer for effective online teaching and learning. The course material will be prepared in an interactive and high-quality manner in order to motivate students to engage in effective and continuous online learning at the TVET college. The selected TVET college in Ehlanzeni district wanted to be more effective during the global pandemic. The preceding study led us to the situation of Covid-19 faced by the entire world, and the TVET college is attempting to be more effective in using online teaching and learning for the entire academic year at the college. e-Learning was a procedure of gaining knowledge and skills through the delivery of lessons and instructions via the internet. The study will look into the initial efforts of students and lecturers to use online teaching and learning at a TVET college. The willingness for the use of online learning in TVET colleges has increased dramatically with the development of a range of e-learning systems, also known as educational technologies, to support the old style of teaching and learning. TVET colleges are now introducing e-learning to provide a mixture of face-to-face classroom teaching, live e-learning, self-paced e-learning, and distance learning. These e-learning platforms offer many benefits to universities in South Africa. The researcher, therefore, studied the internal stakeholders' perception towards embedding e-learning at the selected TVET college in Mpumalanga province in South Africa

1.3   RATIONALE FOR THE STUDY

The research aimed to understand how college lecturers and students of a TVET college perceive the quality of online learning. The transfer of curriculum content has changed within education internet-based learning, a wealth of educational software, and evidence of increasing use of online learning at TVET college approached for training in Mpumalanga province (Rourke, 2010).

Most researchers highlight that there is a need in understanding the 4IR education system rather than having traditional methods that have not achieved enough (DFES, 2005, and Rourke, 2010). Studies have found that TVET colleges' internal stakeholders were concerned with the acceptance of the online-learning programmes during the Covid-19 pandemic (Mahmod,

Dahlan, Ramayah, Karia, Asaari, Lee, Cheung & Chen, 2005). But through understanding, perceived usefulness and enjoyment it is very important for the adoption of e-learning applications by students at TVET college.

The researcher found that when online learning was introduced at the college, the students enjoyed studying and writing tasks online. This study is essential to understand how TVET college lectures and students perceive online learning for their benefit during teaching and learning. Therefore, the study answers these important questions: "What are the factors influencing embedding e-learning in a TVET college?" and "What are the strategies that can be used to embed e-learning in a TVET college?"

In his experience as a South African TVET college lecturer, Acting Student Support Officer, Business Studies Supervisor, and Acting Head of Department (HoD)since 2007, the researcher has been providing teaching and learning to many young and adult National Certificates Vocational and National Diploma students. During the Covid-19 pandemic, the researcher saw a need for effective online teaching and learning at the selected TVET college. This research indicates that online learning in the TVET college has contributed towards creating a conducive learning environment for students and made them trust it as a resource for knowledge construction and knowledge development (Cho and Tobias: 2016).

The study found that during the Covid-19 pandemic, most TVET college lecturers and students were vulnerable. Therefore, online teaching and learning played a pivotal role during the academic year. According to Beth, Jordan, Schallert, Reed, Kim, Cho and Tobias, (2015, 2016), cited in Nortvig, Petersen, and Balle, 2018), through online learning, a lecturer can still play a vital role in supporting students successfully. Online teaching and learning benefited both lecturers and students in facilitating and completing tasks remotely, either at home or at work

The researcher found how lecturers and students at the TVET college perceive and explore online learning on internal stakeholders and the roles they play in influencing government policy in a TVET college.

1.4   PROBLEM STATEMENT

According to Taha (2014), online learning has been introduced into higher educational institutions, particularly in universities, to gain benefits and to speed up developments in technology that assist in improving the teaching and learning experience and increasing its

effectiveness. Recently, there has been an increasing interest in online learning because it has been integrated into TVET college education and has transformed teaching and learning processes.

However, online learning projects face slow progress and many online learning initiatives were not sustained in the selected Mpumalanga TVET college. Very little had been known about online learning implementation. Furthermore, online learning has largely been used by universities rather than TVET colleges in South Africa. The implementation of an online learning programme in the TVET sector is faced with many challenges such as ICT infrastructure. TVET colleges will support the lecturer's attitudes and students' readiness for online teaching and learning (Ajelabi and Agbatogun, 2010; Redempta & Elizabeth, 2012; Mulwa & Kyalo, 2013).

This study will contribute to recent information about online learning achievements in general, specifically the current situation the TVET college is facing. This research was generated from internal stakeholders' perceptions as a strategy to influence the achievement rate and usefulness of online teaching-learning projects at a TVET college. This research also explores lecturers' and students' adoption and use of an online teaching and learning system at a TVET college in Mpumalanga province.

1.5   RESEARCH QUESTION

What are the perceptions of the stakeholders regarding embedding e-learning at a TVET college in Mpumalanga province?

1.5.1 Sub-questions

The following sub-questions of the study were formulated.

1. What are the challenges facing the internal stakeholders' perception in the implementation of e-learning at the TVET college?
2. What are the factors influencing embedding e-learning at the TVET college?
3. What are the strategies that can be used to embed e-learning at the TVET college?

1.6   THE AIM OF THE STUDY

The aim of the study is to examine the internal stakeholders' perceptions towards online learning at a TVET college in Mpumalanga province.

1.6.1 Objectives

The study's objectives are as follows.

- To investigate internal stakeholders' perception regarding online learning at a TVET college in Mpumalanga province.

- To determine factors influencing embedding e-learning at a TVET college in Mpumalanga province.

- To explore the strategies that can be used to embed e-learning at a TVET college in Mpumalanga province.

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1.7   THEORETICAL FRAMEWORK BACKGROUND

1.7.1   Internal Stakeholders

1.7.1.1 Definition of stakeholder

Stakeholders involve any group, individual or group that can affect or is affected by the achievement of the objectives at stake. The stakeholders' perception in online learning view how it will assist them to achieve the aim of the study, and how to implement e-learning in the TVET college. Stakeholders have direct contact with the systems in order to assist educational institutions in their role of teaching and learning. In the TVET college, lecturers and students interact directly if they promote learning or research activities. The goal is to examine internal stakeholders' perceptions of online learning at the TVET college.

1.7.2   Stakeholders theory

This study looks at e-Learning in the context of higher education, specifically in the TVET college sector. Each stakeholder is assessed in terms of their needs and concerns, as well as how their needs will be met and satisfied based on their level of understanding. How internal stakeholders will perceive e-Learning in terms of implementation. According to Phillips, Freeman, & Wicks, (2003) the concept of stakeholders can be applied to fields other than organisations.

Stakeholder analysis

Stakeholder analysis includes findings from in-depth interviews with the study participants. The data presented was analysed and interpreted for future research and discussion on the success

of e-learning. The data findings were presented using a qualitative research method. The collected data was analysed and will be used in future research.

Type of stakeholders and their Interest

Students

Most students in higher education and training, particularly in the TVET sector, have accepted e-learning and the TVET colleges' online offerings are expanding. e-Learning is inexpensive; students save money on transportation and other expenses by studying online. Teaching and learning take place at a reasonable cost and at a convenient time.

Lecturers

Lecturers are some of the TVET college's internal stakeholders. They play an important role in bringing e-learning to the college. Technology helps lecturers to conduct effective online teaching and learning, and students receive immediate feedback.

Management

Management is one of the TVET college's internal stakeholders and is responsible for providing the resources and infrastructure required for effective teaching and learning in the college. If resources for effective teaching and learning are put in place, e-learning lessons produce good results.

e-Learning

2.1 Definition of e-learning

e-Learning is defined as learning facilitated using digital tools and content that involve some form of interactivity, which may include online interaction between the learner and their teacher or peers (Ministry of Communication and Technology of New Zealand, 2008). In the TVET colleges, both lecturers and students must be familiar with the use of technology. This will result in a positive outcome for both lecturers and students.

e-Learning has been defined differently in different literature. In general, e-learning is the expression broadly used to describe "instructional content or learning experience delivered or enabled by electronic technologies" (Ong, Lai and Wang, 2004). According to Jones (2003), some definitions of e-learning are more restrictive than this one, for example, limiting e-learning

to content delivery via the internet. However, the most educators consent that e-learning is a set of synchronous and asynchronous instruction delivered to students over technology (Colvin and Mayer, 2008).

Practice is a recurring factor that contributes to the effectiveness of e-Learning. The student is given the opportunity or is required to practise the educational material presented in case studies through the e-learning solution. (Alinier et al., 2006) e-Learning allows students to practise in a safe environment at any time that suits them.

2.2 Characteristics

Background framework relates to the characteristics of e-learning in the college.

Nedelko (2008) suggests the following characteristics:

- Felling of isolation – need for social interaction and personal contact e.g., excellent way versus boring
- Independence – the participants will have the ability to work well with minimal structure e.g., few instructions will be offered to participants
- Good thinking skills – the participants will be able to use higher-order thinking e.g. synthesis, evaluation, especially due to the lack of contact with the lecturer and students.
- Good problem solver – the participants will be able to resolve problems mainly on their own.

Guragain (2016) highlighted some the following major advantages of e-learning:

- Convenient for students. e-Learning resources allow students to access lessons whenever they want. They will not necessitate the student's physical presence in a classroom. Students will be able to download and save the educational materials for later use.
- e-Learning reduces travel and food costs for both students and lecturers because teaching and learning take place at their respective locations.
- Up-to-date learning materials. The study materials in e-learning systems can be updated more regularly than in classroom-based education systems.

- Scalable e-learning systems. The number of students in virtual classes or e-learning systems can be very small or very large without making a significant difference in the total cost.

This section discusses the theories underlying internal stakeholders' attitudes towards embedding e-learning at a TVET college in Mpumalanga province. This section discusses the theory of an e-learning system theory framework. The purpose of this section is to ascertain internal stakeholders' attitudes towards the implementation of e-learning at the selected TVET college. The study reveals how e-learning is perceived by internal stakeholders at the TVET college. The study investigates the strategies that were used to implement e-learning in the college, as well as how to identify factors that influence the implementation of e-learning in the college.

The theoretical framework that provides the means to detail and measure the students' and lecturers' understanding with online learning in the TVET college and allows the researcher to make sense of instructional delivery, facilitation, assessment and support services using newer and/or advanced technology in this mode of learning.

Figure 1.7.1: Kolb's adapted model of experiential learning
(Source Kolb, 1984: 141)

Concrete or tangible experience (CE)

↓

Reflective or thoughtful observation (RO)

↓

Abstract or intellectual conceptualisation (AC)

↓

Active or practical experimentation (AE)
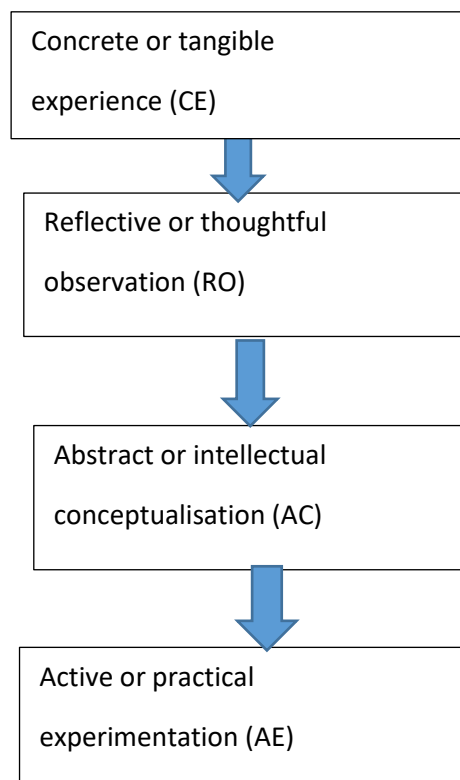
1.8   RESEARCH METHODOLOGY AND DESIGN

1.8.1   Research Paradigm

Thomas Kuhn (1962) first used the word "paradigm" to mean a philosophical way of thinking. Guba and Lincoln (1994), who are leaders in the field, describe a paradigm as a basic set of opinions or worldview that guides research action or an investigation. According to Denzin and Lincoln (2000), the experts of qualitative research, describe paradigms as human constructions, which deal with first principles and values indicating where the researcher is coming from to construct meaning embedded in data or information. Qualitative research is a type of scientific research which generally consists of an investigation that systematically seeks answers to a question.

The term paradigm, which means a pattern and was first used to denote a conceptual framework perceived in a community of scientists which provided them with a suitable model for examining problems and finding solutions (Thomas and Kuhn, 1962). Paradigms are thus important because they provide beliefs and dictates, which, for researchers in a particular discipline, guides what should be studied, how it should be studied, and how the outcomes of the study should be understood. The research process consists of three major dimensions, namely, ontology 1, epistemology 2 and methodology 3, (TerreBlanche and Durrheim, 1999). A paradigm can also be defined as an integrated cluster of substantive concepts, variables and problems attached with corresponding methodological approaches and tools, it is referred to as a research culture with a set of beliefs, values, and assumptions that a community of researchers has in common regarding the nature and conduct of research (Kuhn, 1977). This research is used because it offers some important perceptions to the participants, which encourages them to have an influence and voice in the study.

1.9   RESEARCH DESIGN

1.9.1   Qualitative Research Design

The methodological approach taken in this study is a qualitative research based on a case study. According to Caswell (1994), qualitative research is scientific research which generally consists of an investigation systematically seeking answers to a question and a set of predefined procedures to answer the question, collect evidence, and produce findings that are applicable beyond the boundaries of a study.

The qualitative research approach involves the discovery and is defined as an unfolding model that occurs in the natural setting to improve a level of detail from high involvement in the actual experiences (Caswell, 1994), Qualitative research aims are to give a detailed understanding of human behaviour, emotions, attitudes and experiences (Tong et al., 2012).

1.9.2   Justification for using Qualitative Research Design

For this study, qualitative research is used to explore factors influencing embedding e-learning at the selected TVET college in Mpumalanga. Research methodologies suggest how inquiries should proceed by indicating what problems are worth investigating, how to frame a problem so it can be explored, how to develop appropriate data generation, and how to make the logical link between the problem, data generated, analysis, and conclusions drawn.

Kaplan (1964) highlighted that research methodologies as a synergetic relation with methods and are often defined differently on the philosophical stance supported by the researcher and most qualitative researchers will first identify a text or social object that is suitable for analysis, even if it is a visual text. This method involves tools, techniques, or procedures which are used to generate data (Kaplan, 1964). A qualitative research method involves interviews, including a set of techniques for collecting data from individuals or groups by using structure semi-structured, or unstructured questioning formats (Caswell, 1994).

1.10   RESEARCH METHOD

1.10.1 Case Study

The participants in this study will be selected from all stakeholders ranging from senior management to students in the selected campuses at a TVET college in Mpumalanga. The researcher obtained a list of stakeholders from each selected campus of the TVET college and explored the strategies that can be used to embed e-learning in stakeholders at the selected TVET college. Denzin and Lincoln (2000:3) describe qualitative research as a set of activities that traces the observer in the world. It consists of a set of interpretive and material practices that make the world visible. These practices change the world., including field notes, interviews, conversations, photographs, recordings and memos in online teaching and learning. At this level, qualitative research involves an interpretive and naturalistic approach to the world.

1.11   POPULATION

The study will be carried out at a TVET college in the rural area of Ehlanzeni District, Mpumalanga Province, South Africa. According to Bless and Higson-Smith (1995:85), a population is a group of people whose characteristics the researcher wishes to determine, and it includes senior management, campus managers, lecturers, a Student Support Officer, and students at a TVET college in Mpumalanga (Mark; 1996:105).

1.12   SAMPLE

Brink (2001:133) highlights a sample as a whole, or a subset of a larger set. The researcher selected to participate in a research study that is conducted at a TVET college in Mpumalanga. This is a small set of cases the researcher selected from a large group and generalises the population which means that, a sample can therefore be described as a component of the overall population under study (Neuman; 2000:518).

The research methodology will be semi-structured interviews and focus groups that include the Central Office and seven campuses of the selected TVET college. The Principal, Deputy Principal Academic, three Campus Managers from the selected campus, one Student Support Manager, four lecturers from each selected campus, and seven students from each campus were selected. The total number of the participants at the TVET college will be seventeen. The study was conducted on NCV, Report 190 and Report 191 programmes, both Business Studies and Engineering Studies at the selected TVET college. Only students were interviewed in the focus group.

The envisaged number of respondents per section is given in table 1 below

NO	PARTICIPANTS	NUMBER OF PARTICIPANTS	DATA SOURCE
1	Principal and Deputy Principal Academic	2	Semi-structured interviews
2	Campus Managers	3	Semi-structured interviews
3	Student Support Manager	1	Focus group discussions
4	Lecturers	4	Focus group discussions
5	TVET college students	7	Semi-structured interviews

TOTAL NUMBER OF PARTICIPANTS	17	

1.13   SEMI-STRUCTURED INTERVIEWS

Burgess (1984) regards a semi-structured interview as a conversation where the interviewer and interviewee participate in a formal interview, the interviewer develops and uses an interview guide where open-ended questions and topics that need to be covered during the conversation, usually in a particular order are involved.

Open-ended questions provide opportunities for both interviewer and interviewee to discuss some topics in more detail and a respondent is given an opportunity to respond to the questions that are asked (Burgess, 1984). A semi-structured interview allows the respondents freedom to express opinions in their own terms. The participants are given an opportunity to go through the given questions and respond freely without any interruptions during an interview.

The respondents will be the internal stakeholders at a TVET college in Mpumalanga province.

1.14   FOCUS GROUPS

According to Lederman (1995), cited in Thomas (1995), a focus group is a technique involving the use of detailed group interviews in which the participants are selected because they are a purposive, although not necessarily representative.

It follows therefore that during this study, interviews will be conducted among different groups of internal stakeholders of the different departments at the selected TVET college.

1.15   PERMISSION TO CONDUCT RESEARCH

The researcher will ask approval for permission from the principal of the selected TVET college to conduct research in the selected campuses. The participants will be informed about the aim and objectives of the study. The researcher will make sure that the participants' names remain anonymous, and the information presented will be kept safe and protected during and after the process of research. The participants will be allowed freely and voluntarily in the research process. Furthermore, the researcher will make sure that the research process will not be biased.

1.16   INSTRUMENTATION AND DATA COLLECTION TECHNIQUES

Data collection techniques will be used during data collection of the study (Polit & Hungler, 1999:267). Data collection instruments will be used to collect data such as questionnaires, tests, structured interview schedules and checklists (Seaman, 1991:42). Data collection involves interaction between the researcher and the respondents which need to be documented. In this study interviews will be conducted using semi-structured and focus group discussions. the participants will be the internal stakeholders at the selected TVET college. Meanwhile focused groups will be selected from the sample survey at the TVET college in Mpumalanga province.

1.17   DATA ANALYSIS AND INTERPRETATION

The researcher will collect data by using focus groups interviews with 17 participants from the selected TVET college in Mpumalanga province, individual interviews and document analysis. The researcher will use interviews to all selected lecturers involving focus group and will consent everyone to participate (De Vos et al., 2011). According to Patrick Ngulube (2015, cited in Leech and Onwuegbuzie, 2007), qualitative data analysis is the most important step in the qualitative research process, and it makes sense for the quality of data that has been gathered during the conduct of their study. Qualitative data analysis process bring structure, order and meaning to the mass of collected data (De Vos, 2002b:339, Marshall and Rossman, 1995, 111). Analysis of data in the study will commence immediately after the interviews and discussions have been conducted and completed at the TVET college.

1.18   CREDIBILITY AND TRUSTWORTHINESS

Elo, Kääriäinen, Kanste, Pölkki, Utriainen and Kyngäs (2014) highlight that, trustworthiness in qualitative content analysis is often presented by using terms such as conformability, transferability, credibility, dependability and authenticity and they will be used for the collection of data in the study. According to Gunawan (2015, cited in Sandelowski, 1993), trustworthiness is the persuasion whereby a researcher is viewed as having made those practices visible and auditable. The researcher has a task to ensure ethical conduct and standards of the participants throughout the research process.

1.18.1 Credibility

Polit and Beck (2012) highlight that, credibility focuses on the study referring to the relevance of the data to the proposed study and the researcher should understand how to gather the most suitable data for content study. According to Lincoln and Guba (1985), credibility is the degree to which the study represents the actual meanings of the research participants. This technique

will assist the researcher to collect the data that is authentic and truthful from the participants. Validity seeks to ensure that the study measures what is intended. Credibility also answers the question on how consistent the findings are with reality. This technique will assist the researcher to improve the credibility of the study.

1.18.2 Transferability

According to Guba, (1981:79, 80), transferability determines the degree to which the findings of a particular inquiry may be applicable to respondents and will be employed to ensure the description of the research methodology. Transferability extends the results of the research programme and pursues with confidence to a wider population and in a study it is useful in theory, practice, and future research (Lincoln & Guba, 1985, Shenton, 2004).

To ensure that the research findings are transferable, purposive sampling techniques should be employed (Tongco, 2001:152). This implies that other researchers can make use of the research outcomes to support and assist them in conducting similar research.

1.18.3 Dependability

Sandelowski, Polit and Streiber (1986, 2006, 2007) highlight that, dependability is consistency and reliability of the research outcome and the degree to which research procedures are documented, permitting outside and the research to follow, audit, and critique against the research process. Dependability determines whether the results of an inquiry would be consistently repeated of the inquiry were faked with the same subjects (respondents) in a similar context (Guba 1981:80). The research technique used to ensure a review trail and the supervisor will have access to all transcriptions, findings, interpretations and recommendations to the study. An audio recorder will be used during data collection to save the data electronically and for record keeping purposes of the study.

1.18.4 Conformability

Qualitative research is a procedure in which the findings of a study are the work solely of the respondents and provide proof that it is not repeated, and the researcher must prove that research results are clearly connected to the conclusions (Guba 1981:80). Conformability audit trail will be used to enhance trustworthiness by keeping records of all data collection, research analysis and writing the research that will convince the researcher about the findings, (Babbie and Mouton 2001:278; Klopper 1995: 27). Jones (1995), Denzin and Lincoln (2011), share the

view that it is significant to understand the application of hypotheses about comfortability and the multiple viewpoints that define it.

1.19 RESEARCH ETHICS

Arifin (2018) highlights that the most important aspect in a qualitative study is that ethical considerations have a particular quality due to the in-depth nature of the study process. The researcher takes ethical considerations very seriously and an application for ethics approval will be submitted for endorsement at the University of South Africa's (UNISA) Ethics Committee. Denzin and Lincoln (2011) highlight that, research ethics protect participants' rights as human subjects and participants who are concerned when conducting research were fully informed of what will be asked of them, how the data will be used as well as what (if any) consequences there could be. The participants were provided with clear information and signed consent before taking part in the research, including understanding their rights to access to their information and the right to withdraw at any point.

The important aspect that contributes to ethical research conduct is obtaining the participants' informed consent. It entails who the researchers are, what the intent of the research is, what data will be collected from the participants, how the data will be collected from participants, what level of commitment is required from participants, how this data will be used and reported, and what are the potential risks of taking part in the research. Participation in this research, will be voluntary for all internal stakeholders of the TVET college and keeping the data confidential is the priority, and to secure the data. In qualitative research, data stored are protected after the research is conducted. If researchers store their information in computers, the TVET college's hard drives and memory sticks will be protected (Arifin, 2018).

1.19.1 Informed Consent

The research participants will be informed about the purpose of the study, and the aims and objectives of the research. The participants' readiness in the interview will be taken into consideration. All the necessary documents for the consent of the participants were prepared. The information about the research and the researcher's personal information will be put in place for the study. The documents will explain what is required from the participants' consent and their right to withdraw from participating in the study. After the discussions have taken place and the agreement reached, the participants will be asked to sign the consent forms.

1.19.2 Anonymity and confidentiality

The participants' identity will be kept anonymous, and the information collected was kept in a safe place. The name of the TVET college, and those of the campuses where the research will take place will not be specified. Electronic devices like cell phones and audio recorders will be used to conduct the interviews. Only the researcher and the supervisor will have access to the documents recorded.

1.19.3 The right to withdraw from the research at any time

The participants will have the right to withdraw from participating in the research at any time before the research commences.

1.20   SCOPE OF THE STUDY

The current study is delimited to investigate the internal stakeholders' perception towards e-learning at a TVET college in Mpumalanga. Furthermore, the study seeks to assess factors influencing embedding e-learning at a TVET college.

1.21   LIMITATIONS OF THE STUDY

Limitations are factors that can limit where the study can go and can affect its end results and conclusions. There will still be some limitations in the results even if it is well constructed (Simon and Jim Goes, 2013). In qualitative research, the study has access to only certain people at the TVET college, and to certain documents, and data. The study is limited to sampled individuals.

The main focus of the research is on the perception of internal stakeholders towards embedding e-learning at the selected TVET college in Mpumalanga province. According to Simon and Jim Goes (2013, cited in Delva, Kirby, Knapper, and Birtwhistle, 2002), surveys which are distributed with time limits are regarded as challenging to people who struggle with time limitations and are likely to respond feeling overworked. They will also not have enough time to complete the survey. In qualitative research, the study will not generalise all areas of online learning at TVET college, and the findings can be subject to other interpretations (Creswell, 2012). The researcher fully concurs with Creswell (2012).

1.22   DEFINITION OF KEY CONCEPTS

1.22.1 Perception

According to Forgus and Melamed (1976), the perception within cognitive structures is defined as the processes that determine how individuals interpret their surroundings. The researcher is

of the opinion that it is important to understand all the processes on how to obtain information from other stakeholders.

1.22.2 e-Learning

According to Basak, Wotto and Be´langer (2018, cited in Hoppe, 2003: 255), online learning is supported by digital electronic tools, media, mobile devices and wireless transmission. Any type of learning that is facilitated by technology or instructional practice and makes effective use of technologies can occur in all learning areas and domains (Victoria State Government, 2017).

1.22.3 TVET

TVET is an acronym, which means Technical and Vocational Education and Training and aims at developing skills in the practice of certain trades, as well as learning at preparing students for entry into the workplace in general (UNESCO, 2009). According to the Federal Republic of Nigeria (FRN) (2013), TVET can be defined as a comprehensive term that refers to those aspects of education process involving the study of technologies and related sciences and offer students practical skills, good attitudes, understanding, and information relating to professions in various economic and social sectors.

1.22.4 Internal Stakeholder

An internal stakeholder is any individual or group of people affected positively or negatively in an organisation. In this study, internal stakeholders in a TVET college are lecturers, students, college management and college council.

1.22.5 Pedagogy

Pedagogy is about teaching methods which develop and influence the cultural, social and political values for students in an institution and is supported by a strong theoretical and practical base (Education Scotland, 2005:9). According to Siraj-Blatchford, Sylva, Muttock, Gilden and Bell (2002:10), pedagogy refers to the instructional methods and strategies that allow learning to take place, the interactive process between a lecturer and a student and it is also applied in the provision of some aspects of the learning environment

1.23   OUTLINE OF THE STUDY

1.23.1 Chapter One: Introduction

Chapter one deals with the overall introduction to study, background, motivation to the study, problems statement, research questions, aim, objectives and description of the study.

1.23.2 Chapter Two: Literature Study and Review

The chapter deals with the literature study and review the perception of internal stakeholders in embedding e- learning at a TVET college in Mpumalanga province. Online learning, issues, and challenges will be discussed.

1.23.3 Chapter Three: Research Methodology

The research methods, research design, data collection and procedure are discussed, analysed and data is collected and interpreted to get answers.

1.23.4 Chapter Four: Presentation, Analysis and Interpretation

The data collected and the presentation of facts from the study are discussed in this chapter. Factors from the study, analysis of collected data, evaluation and interpretation of collected data are discussed.

1.23.5 Chapter Five: Summary, findings, conclusions and recommendations.

The results of the research are presented in this chapter. The conclusion and recommendations are outlined, focusing on the perception of the internal stakeholders towards embedding e-learning at a TVET college in Mpumalanga.

1.24   CONCLUSION

The research proposal gives an overview of the proposed study at a TVET college in Mpumalanga. All proposed topics have been covered for the collection of data. Chapters dealing with the aim, purpose, problem statement and research questions of the study will have been discussed. Research methodology, research design and research strategy were discussed. Population and sampling are briefly highlighted.

Data analysis will guide the researcher towards determining how the perception of internal stakeholders works towards embedding e-learning at the selected TVET college in Mpumalanga province.

<center>**CHAPTER TWO**</center>

2.   LITERATURE REVIEW

2.1   INTRODUCTION

e-Learning is an instruction in which the majority of the lessons occur while a lecturer and a student are at a distance from each other. According to Zalenski (2000), the same quality of instruction should occur between a student and a lecturer even if they are separated by distance. Allen et al. (2004) define online learning as a course in which the expectation is that a student and a lecturer will not be physically present in the same location. e-Learning involves one lecturer facilitating learning with more than two classes at the same time using multimedia and hypermedia technology.

e-Learning, also known as distance learning or online learning, can be described as a system of conveying knowledge through teaching from a distance where technology is used. In these cases, the student and the lecturer are physically remote from each other. The students may be physically absent from the class, but through technology, they interact with the lecturers, Warschauer (1997).

Generally, e-learning provides access to learning in situations where both the source of information and the participant, usually the student, are separated by time, distance, or both (Cooke, Crawford & Warner, 2009).

According to Cole, (2000); cited by Terry Anderson, online learning allows participants to collapse time and space. However, the education resources must be well designed to engage the student and encourage learning. The delivery method must be easily accessible everywhere at any time convenient to students. According to Rossett (2002), online learning has many possibilities, but it takes commitment and resources and must be prepared correctly.

2.2   ONLINE LEARNING

Online learning was already popular in the education department in South Africa a few years back. It was mainly for part-time and working adult students who were unable to attend classes on a full-time basis (Moore, Dickson-Deane & Galyen 2011).

This study has been conducted to emphasise the importance and effectiveness of e-learning use in the teaching and learning process. Masino (2015) investigated the reality of the use of e-learning systems and computer-generated classes proved that e-learning use was effective in

increasing the effective teaching and learning for students. The study has found that the use of the e-learning method has supported the fact that the appropriate use of such a system can provide fast and genuine solutions in the teaching and learning process in the college for students Basaqr (2009). Online teaching and learning during the Covid-19 pandemic have been proposed to be implemented in some programs or courses in all higher learning institutions in South Africa. Therefore, the college should encourage lecturers and students to use e-learning, the internet, interactive video, and simulated classes, which may help them learn more effectively when remote from each other. The research has shown that most of the colleges attempted to use e-learning, especially during the Covid-19 pandemic in which the processes of teaching and learning take place at TVET College.

2.2.1 Intrinsic factors in online learning

2.2.1.1 Intrinsic motivation in online learning

Intrinsic motivation occurs when there is an act without any recognisable external rewards. There is a simple enjoyment of an activity, or it is seen as an opportunity to explore, learn, and actualise the potential (Coon & Mitterer2010). Students at the college are allowed to learn freely and enjoy their online learning.

The main aspect to be taken into consideration is the role played by intrinsic motivation in student learning (Journal of Leadership education;2008). When students are intrinsically motivated, they are more likely to be involved in their learning and achieve high standards. The study has found that there will be effective teaching and learning when students are involved in the process.

Orlando and Attard (2015) are of the view that teaching with technology is not suitable for everyone in the college, it depends on the curriculum content being offered in the college. This means that not all engineering courses can be presented online because the students might be required to attend workshops at the TVET college.

Extrinsic Motivation in Online Learning

The Covid-19 pandemic has been declared as the deadliest disease around the world (World Health Organization in March 2020). The DHET has pleaded with the higher educational institutions to conduct teaching and learning from a face-to-face mode of teaching and learning to online. (Ministry of Education and Culture, 2020). The lecturers and students were therefore expected to change from an old style of teaching and learning to adapt to online learning.

The online delivery model can offer effective and suitable ways to achieve learning outcomes for students learning online (Junco et al., 2013). Extrinsic motivation is influenced by learning conditions, social conditions, personal conditions, and supporting facilities.

The challenge that comes along with online teaching and learning is the lecturers' lack of online teaching experience in the college. Online learning was also described as having some challenges in the learning process. The students complained that online learning has caused them some health problems like tiredness, headache, and fever because they had to complete too many assignments in a short period. Some students also stated that they had eyesight problems due to long hours staring at computers and phones screens (Simamora, 2020). The study has found that students, spend more time working on computers, trying to complete their tasks online in the TVET college.

2.3 ISSUES RELATED TO STUDENTS

The study has highlighted the issues related to students' expectations and the challenges that can interfere with effective online teaching and learning for students in the TVET college. Kathy et al. (2011) examined the most recent e-learning procedure and demonstrated a new aspect of research work in this field that follows the most important and most neglected research areas in this field until today. This study analyses the importance of the e-education system and the recent market of e-learning methods. This study shows that the globalisation of education, cross-culture aspects, and a culturally complex student support system in distance learning, as well as in an e-learning environment, is a prospective research area. Online learning has become important in the students' learning environment.

Loyen, Magda, and Rikers (2008), cited in Nwankwo (1995), state that the growth in online education has increased competition among post-secondary institutions. Online learning has become an increasing emphasis on attending to student satisfaction during the teaching and learning process at TVET colleges. The study showed that students may be interested in logging in online.

2.3.1 Advantages or benefits of e-learning for students in the TVET college

According to Barbour and Reeves (2009); Clark and Berge (2005), and Tucker and Kozma (2003), the benefits of online learning involve expanding academic access, increasing the accessibility to high-quality learning, improving student achievement, and expanding educational choice for students. The research shows that students benefit from online learning

in different spheres of their academic process in the TVET college. Motivated students can receive their qualifications as soon they started using online learning in college.

Clark and Berge (2005) highlighted that, one of the benefits of online learning is that it provides students with the opportunity to experience life and learning outside their local communities. Researchers have identified flexibility as part of the strength of the online learning setting (Petrides and Schrum, 2002). Online learning improves creativity and keeps the students engaged and motivated for longer in the teaching and learning process.

Conkova (2013) and Pande et al. (2016) highlight their common views on the advantages of online learning for students in the college. The following are some of the advantages that are found by the researchers for the students.

> The flexibility of time and setting
  Students can access study materials wherever they are situated at their own stipulated time in online learning. Students have the advantage of choosing a place that suits them in online learning in college.

> Economically Cost-effective
  Online learning is cheaper to access information, easier to log into the internet using a computer, and saves papers for printing. No traveling or boarding costs are involved.

> Easy access to a vast amount of information and improved accessibility to knowledge
  The students will have access to a huge amount of information to use for their knowledge.

> The archival capability of information
  Students have the opportunity of storing a huge amount of information for future reference as they are involved in online learning in the college.

> Eliminates barriers of fear
  e-Learning helps to reduce obstacles that can hinder the participation of students among themselves. It also motivates students to network and exchanges different points of view with one another.

The study found that online learning has been conducive to students who favour self-regulated learning (You & Kang, 2014). The students can study at their own pace doing their research on the tasks given to them and submit completed assignments to their lecturers online in the

TVET college. Online learning allows the students to work at a time and a place that is convenient with their learning necessities.

2.3.2 Disadvantages of e-learning for students in the TVET college

The study has highlighted that one of the disadvantages of online learning is a delay in communication, which has been reported by various researchers (Howland & Moore, 2002; Petride, 2002; Hara & Kling, 1999, and Vonderwell, 2003). Effective communication in the online learning process is important to students in the TVET college. The research found that although e-learning has some benefits when being implemented in teaching and learning, it also has some disadvantages in the learning process to students. Studies have proven that e-learning possesses some disadvantages in a teaching and learning environment (Collins et al. 1997; Klein and Ware, 2003; Hameed et al, 2008; Almosa, 2002; Akkoyuklu and Soylu, 2006; Lewis, 2000; Scott et al. 1999; Marc, 2002; Dowling et al, 2003; and Mayes, 2002).

The following are some of the disadvantages of e-learning that have been given by studies:

➢ e-Learning as a system of education makes the students experience contemplation, remoteness, and lack of interaction and relation with each other. there is a need for strong motivation for students as well as skills from the management of the college to reduce such effects.

➢ An e-learning method might be less effective than the traditional method of learning. The learning process in a traditional method can be much easier with the use of the face-to-face encounters with the lecturers

➢ Examination, assessments, and tests in e-learning are possible to be completed with the use of the proxy. It is difficult to control the tasks and regulate bad activities like cheating during the conduct of these tasks.

➢ e-Learning may also reduce institutions' socialization role and also the role of lecturers as the administrators of the process of teaching and learning. Vonderwell (2003) stated that online learning participants indicated a lack of connection with the lecturer, particularly a "one-on-one" relationship with the lecturer.

➢ This study showed that e-learning may also lead to overcrowding or heavy use of some websites during the teaching and learning process in the college. This may bring about unexpected costs both in time and money disadvantages Collins et al. (1997); Klein and Ware, (2003); Hameed et al, (2008); Almosa, (2002); Akkoyuklu & Soylu, (2006); Lewis, 2000; Scott et al. 1999; Marc, (2002).

➢ According to Brown (2017), the study has highlighted that online learning programmes offer the students flexibility to choose their course of learning,

Bijeesh (2017) highlighted some of the disadvantages of online learning for students in the TVET college as follows:

➢ Chances of distractions are high

The probabilities of getting distracted and trailing behind and meeting deadlines for submission are high. Online learning is not preferable for the students if they keep on delaying and cannot stick to deadlines.

➢ Hidden costs

One of the disadvantages of online learning is that there can be unknown costs involved for students in the TVET college, that is if teaching and learning are conducted online, students might experience some initial expenses like installing a computer and getting a consistent internet connection, buying a printer, camera, and data for effective learning. Other costs can be the maintenance of a computer and excessive consumption of electricity to complete the assignments.

Another disadvantage for students identified can be the high cost of internet data for students who are outside the cities and CBDs. Poor network especially for the students in the rural areas can be a serious disadvantage.

➢ Complicated technology

Overdependence on technology can be a major drawback in distance learning mode of education, particularly when teaching and learning take place in an online environment. Any broken or faulty software failure or hardware can bring an ongoing lesson to a standstill and interject the learning process. if a student in the college does not have computer skills and no technological knowledge, his learning experience can be dissatisfactory.

Personal factors can also impact student access and participation in an online learning environment (Stoessel et al., 2015). Commitments such as caring for young children or any household chores and being called into work can affect the attendance and participation of students in regularly scheduled tutorials or live session

2.4 ISSUES RELATED TO LECTURERS IN THE TVET COLLEGE

According to Ni She et al. (2019), the advancement of technology has not only affected human lifestyles but also has changed the landscape of education and training.

To make teaching and learning more effective in our current education development, especially in the 21st -century classroom, it is a necessity to incorporate technology in the teaching and learning process.

The acceptance of online learning in current years leads to an increased number of online course offerings by TVET colleges (Beatty and Ulasewicz, 2006 ; and Li and Akins, 2005). Edumadze et al. (2014) conducted a study to evaluate the awareness and perceptions of lecturers in using e-learning tools. The study indicated some important limitations that were used in measuring the perception of lecturers towards using e-learning in the TVET college. The first one is the acceptance of e-learning, which refers to the decision of college, lecturers, management, and students to use e-learning and its tools for teaching and learning in the TVET college. The other issue is e-learning readiness, which is an important aspect in any institution or TVET college. The college, lecturers, and students need to engage in using e-leaning as a means in the teaching and learning process in the TVET college.

Lecturers need to be trained on how to use e-learning packages since it boosts their confidence for effective teaching and learning process in the college. According to Floyd (2003) and Koehler et al (2005), most of the colleges are planning to invest in e-learning based lectures and on recruiting and training faculty to teach online. The study showed that online teaching and learning have increased significantly in the colleges, especially during the Covid-19 pandemic. There was a huge demand for this internet-based teaching and learning in the college because of the lockdown levels during the pandemic.

2.4.1 Advantages/Benefits of e-learning for lecturers in the TVET college

Online teaching and learning provide an appropriate structure to ensure constant and meaningful interactions between students and lecturers and encourage the development and assessment of effective learning groups.

The research found that with the help of the technology in online teaching and learning, it can motivate the students' thinking, and it also provides immediate feedback and promoting participation among them (Dhawan, 2020). The study has found that technology has helped online teaching and learning to switch the classroom from a lecturer-oriented to students-

oriented learning environment (Davies & West, 2014). Online learning can increase the quality of instruction afforded to students by using teaching and learning methods, content, and individualization to meet the needs of all students.

Gautama (2020) found that the following advantages can contribute to the effective use of teaching methods online for lecturers at the TVET college: efficiency, accessibility of time and place, affordability, improved student attendance, and suits a variety of learning styles.

- Efficiency

    Online learning offers lecturers an effective way to deliver lessons to students in the TVET college. In online learning, lecturers can use tools such as PDFs, podcasts (recording audio) as part of their lesson plans. By using online resources, lecturers can become more efficient educators.

- Accessibility of time and place

    Online learning allows students to attend classes from any place of their choice. online lectures can be recorded, archived, and shared for future reference, and the students will access the learning material at any time convenient to them. Online learning allows lecturers to reach extensive networks of students instead of being restricted by certain areas.

- Affordability

    Online learning is cost-effective and is far more inexpensive as compared to face-to-face and classroom learning. Online learning eradicates transportation costs for students, student lunchtimes, and it saves accommodation costs. study materials are available online, thus reducing paperwork in teaching and learning environments which is more reasonable. Online programmes have no cost for instructional facilities, transportation, and related staff that can increase costs in online learning process. The reason for online teaching and learning to be cost-effective is that learning through this method occurs fast and easily.

- Improved student attendance

Online learning improves the students' attendance since lessons are conducted from home. There are fewer chances of students to miss the lessons, thus teaching and learning will run effectively without any delay.

- Suits a variety of learning styles

Every student has a different learning style and different learning skills and capabilities. Some students are visual, that is they can use some graphics, pictures, and so forth for learning, while other students prefer to use audio, that is, listening to their lecturer during teaching and learning. Online learning is the best method to make a suitable learning atmosphere that best suits every student during teaching and learning process.

Lecturers must have confidence and believe in the abilities or good qualities of e-learning. According to Garnham and Kaleta, (2002), Kupczynski, Stallone Brown and Davis' study (2008), cited in La Vonne Fedynich Journal of Instructional Pedagogies, found student participation increased in an online learning environment, as there is time to post messages, read and respond to messages, reflect on responses, revise interpretations, and modify original assumptions and perceptions by the lecturers as soon as they are posted to be viewed. Teaching online makes lecturers work and lesson planning to be more effective than in a traditional way of teaching to the students.

2.4.2 Disadvantages of e-learning for lecturers in the TVET college

The study has found that e-learning implementation in online learning can be more challenging in the way that the college can have limited infrastructure that includes simulated classrooms and poor internet connections for effective teaching and learning in the TVET college. Inadequate lecturer knowledge and skills to use learning technologies lead to another major problem for effective e-learning implementation. Various methods of e-learning disadvantages may become worse if online teaching and learning are attended to by a vast number of students with an insufficient number of lecturers in the TVET college. Therefore, it will be difficult for lecturers to provide individual support and presenting lessons to every single student may be virtually impossible (Zounek and Sudický, 2013). Communication in such a big learning group becomes a problem and feedback activities are usually left out during online teaching and learning in the TVET college.

According to Orlando and Attard (2015), the study has found that teaching with technology is that not every lecturer can use this method in teaching online, it depends on the type of technology approach in use at the time and also the curriculum content being taught. That is the combination of technology provides additional factors for attention in terms of teaching pedagogy and construction of learning experiences, not every lecturer can be able to apply technology in the program that is teaching.

The lack of support and the availability of resources for lecturers in using e-learning in the college is a big challenge (Davies, 2005). This means that if the lecturers in the college are not supported fully to apply technological tools, it becomes a challenge for them to be familiar with the current e-learning environment.

According to Afreen, R. (2014). research has found that a lack of understanding, knowledge and education on how to use recent technologies in teaching and learning environments has become a challenge or disadvantage for lecturers in the college. Access to computers is another disadvantage, especially the availability of computers for lecturers in teaching and to students during learning (Al-Shboul, 2019).

Adedoyin and Soykan (2020) believe that some of the disadvantages that may hinder the lectures to successful online teaching and learning are the following:

- Lack of immediate feedback from lecturers
- Increased preparation time for the lecturer
- Not convenient to a subset of participants

2.5 STUDENTS' READINESS TO ATTEND ONLINE CLASSES AT THE TVET COLLEGE

Distance education, specifically online learning, has also grown fast, as institutions of higher learning have sought to keep pace with this new technological capability and the rapid growth in recognition of these technologies by students.

According to Allen and Seaman (2013), the study has found that most higher education institutions in South Africa are now offering their lessons to students online, and this growth appears to be continuing at a fast pace. The college had to switch to online learning during the Coronavirus or Covid-19 pandemic from the old way of learning to teaching and online learning. Since the start of the Covid-19 pandemic, educational institutions in South Africa have moved their teaching and learning activities from a face-to-face mode of learning to online learning. The concept of readiness for online learning in educational settings was suggested by researchers for students to study and participate in online learning environments (Warner, Christie, and Choy, 1998). There are three aspects on the readiness of the students within the TVET college:

- Students' preferences for the form of delivery as opposed to the traditional or old way of classroom instruction in the TVET college. The preferences to in the mode of online teaching and learning as compared to the old way of instruction in the college.

- Students' confidence in using automated teaching and learning technologies for online learning in the TVET college. Confidence and competence in the use of the internet and to log online during teaching and learning.

- Students' ability to engage independently in online learning during the Covid-19.

The study has been conducted to determine the readiness of students and the factors that affected their readiness towards online learning during the Covid-19 pandemic in the college (Naji et al., 2020).

2.6 LECTURERS' READINESS TO TEACH ONLINE IN THE TVET COLLEGE

In March 2020, the government of the Republic of South Africa instructed each institution of higher learning to close under certain conditions due to the start of the Covid-19 pandemic. Teaching and learning activities that were initially conducted through face-to-face interactions were moved to an online learning system. lecturers were expected to be able to provide teaching and learning materials using remote digital devices.

Some researchers have studied the readiness for online teaching and learning at the college.

Gay (2016) observed the lecturers' readiness for the use of e-Learning before, during, and after the presentation of the lessons in the college. It is found that online learning is an urgent matter to be applied during this, Covid-19 pandemic.

Lichoro (2015) found that lecturers in the college are not prepared to teach online. There is still a need to identify capabilities to prepare the lecturers to teach online, and by doing so the college will be providing guidance and prepare the lecturers to teach online.

Downing and Dyment (2013) studied lecturers' readiness and preparation as well as their perceptions of preparing preservice lecturers in a fully online environment and found that lecturers considered online teaching and learning as inefficient. Based on this study, the researcher has found that the lecturers were not ready to teach online, and therefore, practical and academic support, and time-management strategies were needed to teach online.

2.7 ASPECTS OF E-LEARNING

The increase of digital technologies in the TVET college has been met with much enjoyment by many lecturers and managers in higher education institutions. Lecturers and managers pursue to exploit their potential use as a catalyst for transforming teaching and learning practices. There is an increasing number of online course offerings and the associated increase of students choosing an online course (Gregory & Salmon, 2013; and Margaryan, Bianco, & Littlejohn, 2015). There is an increasing concern with regards to the pedagogical approaches associated with these online learning environments (Brown, Millichap, & Dehoney, 2015; Kirkwood & Price, (2014); andSalmon, 2014).

2.7.1 Learning style and cultural aspects

According to Cavus and Zabadi (2014), the study has found that change from the traditional paper and pen environment, that is face to face and blackboard learning management systems is one of the most highly adopted and used online environments in higher education institutions for e-learning. The Covid-19 pandemic has made the college change from an old way of teaching and learning to a digital or technological way of teaching and learning in the TVET college. This had to be implemented during unforeseen breaks and lockdowns due to the high spread of the virus.   2.7.2 Pedagogical e-learning aspects

According to Nichols (2011); Anderson & Deron (2011); and Siemens (2005), Although studies on online education and several journals on its various aspects have been discovered, there have been only a few attempts to develop a solid theory of online education.

The authors have three reasons for online teaching and learning in the college:

With the increasing demand for online courses and severe competition, colleges are embracing new educational formats and technologies with such enthusiasm that they have no resources left to sustain fundamental pedagogic research and provide adequate online lecturer preparation.

College stakeholders turned online lecturers, under the pressure of understanding ever-changing technological tools, find no time or capacity to speculate on online practices and put together a complete online pedagogy. Most online lecturers are either teaching students who are advanced with technology or are experts in this advanced technology and lack teaching expertise; additionally, they are either teaching practitioners or content experts who lack teaching expertise.

Online lecturers have to overcome a narrow opinion of the new emerging use of technology when conducting teaching and learning in their field.

e-Learning tools have played a vital role during the Covid1-9 pandemic, helping the college to facilitate student learning during the closure of institutions of higher learning (Subedi et al, 2020). When familiarising themselves with the new changes, lecturers' and students' readiness needs to be evaluated and supported in using the technologies in the college. Training for lecturers in online teaching and learning should be provided in the college.

Different subjects from different programs in the college require different methods of online learning (Doucet et al, 2020). Not all subjects in the college will require will be presented online. Online teaching and learning also allow physically-challenged students with more freedom to participate in learning in the virtual environment, requiring limited movement (Basilaia & Kvavadze, 2020). The students who are physically challenged studied at home for the duration of the Covid-19 pandemic with all necessary equipment.

2.7.3 Technological aspects of e-learning

There are several definitions of educational technology, a narrow definition refers to educational technology as the effective use of technological tools in teaching and words, if students do not have access to technological resources for e-learning they are less likely to understand during teaching and learning because of the lack of technological skills applicable to their studies. This can include open-source software learning management systems.

According to Swartz et al. (2019), the study has found that there is a need for effective e-learning policies to be in place to address the needs of students and lecturers. The study has been conducted to explore the core business in modern South African colleges.

The study conducted has confirmed that students that use social media sites as the means of in the college become more cooperative when they use platforms that they are acquainted with, such as social media sites, compared to learning management systems imposed by the college, (Basitere and Mapatagane, 2018). Most of the students are more conversant to the use of new technology, it is easy for students to adapt to technology in online learning in the college during Covid-19 pandemic.

According to Ajlan and Pontes (2012), the study has outlined that almost all learning management systems have common features, which include pedagogy, student environment, lecturer tools, course and program design, administrator tools, and technical specifications.

According to Algahtani (2011), the completely online mode is described as synchronous or asynchronous and this is by the application of unrestricted timing of interaction. The synchronous entails varying online access between lecturers and students, or between students at the same time with tools like videoconference and chat rooms in online learning in the college. Contact between students and lecturers is not limited to online teaching and learning in the TVET college. The study found that asynchronous permits everyone to communicate with each other over the internet at different times through negotiations and emails (Algahtani, 2011).

2.7.4 Computer training aspects in e-learning

According to McBrien et al., (2009), the study has found that online learning or e-learning rapid developments in technology have made online teaching and learning simple for students in the college. Some of the terms, for example, online learning, open learning, web-based learning, computer-mediated learning, blended learning, m-learning have in common the ability to use a computer connected to a network, that offers the possibility for students to learn from anywhere, anytime, in any pace, with any resources (Cojocariu et al., (2014). The college needs to install computers and distributes some laptops to lecturers and students in the college for effective online teaching and learning. Online learning or e-learning can be termed as a tool that can make the teaching and learning process more student-cantered, more advanced, effective, and even more flexible.

According to Singh and Thurman (2019), online learning is defined as "learning experiences in synchronous or asynchronous environments using different devices (mobile phones, laptops, iPad, Personal Computers.) with internet access or connections". In these settings, students can be at any place of their choice (free) to learn and interact with lecturers and other students in the online learning process. The college has to distribute has to provide the lecturers and students with the necessary resources for effective online teaching and learning process in the TVET college.

2.7.4.1 The synchronous learning environment in e-learning

It is designed in the sense that students attend live lectures, there are real-time interactions between lecturers and students (McBrien et al., 2009). Feedback for both lecturers and students is immediate in this environment.

2.7.4.2 Asynchronous learning environments in e-learning

They are not correctly structured. In such learning environments, learning content is not available in the form of live lectures or lessons, but available in different learning systems and forums. Prompt feedback and immediate reply is not promising under such an environment (Littlefield, 2018).

2.8 TIME MANAGEMENT E-LEARNING ASPECTS

According to Chaturvedi ((2016). the study aimed at finding the students' viewpoint about time in terms of planning, organising, directing, and control and its effect on academic success as long as identifying individual variables effects on academic success.

During this difficult time of Covid-19, the concern is not about how online teaching and learning methods can deliver quality education, it is rather how the college will be able to adopt online learning in such a huge manner, (Carey, 2020). The college needs to adapt to online teaching and learning to achieve good academic results for students. The college also needs to plan the time for online teaching and learning and how it will manage, control, and organise online, changing from the traditional way of instruction, that is face-to-face and blackboard, to online teaching and learning during the time of Covid-19 in the TVET college.

The only way that will assist to deal with this Covid-19 pandemic in the college is to innovative solutions and introduce online learning to this issue (Liguori & Winkler, 2020).

2.9 INTERVENTIONS TO DEAL WITH THE CHALLENGES IN ONLINE LEARNING

Lecturers are influential individuals in the lives of students during online teaching and learning in the college. They need to engage in an authentic relationship with students, addressing their academic and emotional needs while being resourceful about anticipating unknowns (Henik, 2018). The literature study indicated that most investigations and models concentrated on one or a small set of selected factors such as computer anxiety (Brown et al. 2006; and Muse, 2003). The study concentrated on computers only as a source of online learning. Therefore, there was a need to examine e-learning cases using the full set of factors. The framework was made which clusters the factors on key elements, student, teacher, institution, support, course, technology, costs, and society. Table 1 below shows the clusters.

Table 1: Factors affecting success in e-learning

STUDENT	LECTURER
Motivation	Technological Confidence
Conflicting Priorities(Time)	New Learning Style Confidence
Academic Confidence	Motivation and Commitment
Technological Confidence	Qualification and Competence
Learning Style	Time
Gender	COURSE
Age	Curriculum Design
TECHNOLOGY	Pedagogical Model
Access Software and Interface Design	Subject Content
Costs	Teaching &Learning Activities
Localization	Flexibility(Delivery Mode)
INSTITUTION	Localization
Knowledge Management	Availability of Educational Resources
Training of Lecturers and Staff	SUPPORT
COSTS	Support for Students from Faculty
Technology	Social Support for Students
Access Rates	Support from Employer
Tuition, Course Rates	Support for Faculty
Books	SOCIETY
Institutional Economy and Funding	Role of a Lecturer and Student
	Attitudes on e-Learning and IT
	Rules and Regulations

The study has found that online learning has a positive influence on students in the college (Febriani et.al, 2020). The study found that online teaching and learning can increase student's creativity and self-independent during lessons.

According to Ramani (2015), college lecturers can innovate the use of social media and learning applications to approach the students during online teaching and learning. This innovation can also be applied as an alternative media in the teaching and learning process for online learning when the learning activities cannot be done through face-to-face interactions, as this will advantage the students to have more probabilities to have access to many sources of learning web sites.

2.9.1   How does the college effectively address learning gaps?

2.9.1.1 Personalised learning interventions**:**

A personalised method of learning is highly sensitive to individual desires and highly adapted to differences between students (Istance and Dumont, 2010). Intervention approaches of this nature include developing individual learning plans in online learning

2.9.1.2 Additional or specialised instruction for certain students:

To address a particular need at the individual or small group, the college may increase instructional time and hire specially trained lecturers for online teaching,

2.9.1.3 Additional resources based on student needs:

To address differences in a cost-effective for students in online learning or the context of resource constraints, the college can direct additional financial opportunities for online teaching and learning.

2.10 CONCLUSION

The study aimed to explore the internal stakeholders' perception towards online learning at the TVET college in Mpumalanga province concludes that although various studies have been carried out, in the case of influencing embedding e-learning at the college, suitable pedagogy and platform for different campuses of the college need to be explored further. The lesson learned from the Covid-19 pandemic is that lecturers and students be oriented on the use of different online learning tools.

Having been convinced from the available literature that the implementation of e-learning can be an effective approach to promote teamwork and engagement in the teaching and learning in the TVET college, a theoretical framework was formulated. The primary emphasis was to discuss how theories, practices, and assessments are applicable to the online learning environment. The study found that the basic overview of online learning served as the theoretical framework for this study (Garrison et al., 2000). The study examined how theories

have applied to various aspects of online teaching and learning in the college. Therefore, studies that emphasise factors influencing imbedding e-learning at the TVET college in Mpumalanga province were analysed

<div align="center">**CHAPTER THREE**</div>

3. RESEARCH METHODOLOGY AND DESIGN

3.1 INTRODUCTION

Many developing countries lack basic components necessary for the implementation of e-learning, such as computers and internet access (Rhema & Miliszewska, 2011) & (Hussain, 2007). This is worsened by a lack of technically qualified personnel to carry out necessary installations, a lack of funds to acquire all necessary infrastructure, and poor planning. Those factors increase the possibility of the failure of e-learning projects, and lecturers and students access limitation to e-learning infrastructure (Bhalalusesa et al., 2013).

This chapter presents the research approach, research design and methodology. The study also concentrates on the explanation of the data collection methods, research site, sampling procedures, data collection instruments, data collection procedures, and data analysis procedures are defined. The ethical-related issues are also discussed. The limitations and delimitations of the study are also presented.

Lastly, this chapter discusses the study's limitations and delimitations.

3.2 PHILOSOPHICAL FOUNDATION OF THE STUDY

The study aimed at understanding factors of internal stakeholders' perception towards embedding e-learning at a TVET college. In order to understand the problem, a practical research method was applied, and a methodical and logical explanation of the philosophical concept of epistemology and paradigm was required.

3.2.1 Epistemology

The term "epistemology" derives from the Greek word "episteme', which means knowledge. Simply put, epistemology is used in research to describe how something is learnt; how the truth or reality is known. Cooksey and McDonald (2011) put it as what counts as knowledge in the world. It focuses on the nature of human knowledge and comprehension that the researcher can acquire in order to extend, broaden, and deepen understanding in the field of study.

The epistemology of research is the study of the nature of knowledge and the relationship between the knower and the would-be known. Schwandt (1997) defines it as the study of the nature of knowledge and justification. As a result, when considering the epistemology of one's research, questions such as the following are asked: "Is knowledge something that can be acquired, or something that must be personally experienced?" 'What is the nature of knowledge?", and "What is the relationship between the knower and the would-be known?"

These questions are important because they help the researcher to position themselves in the research context so that they can discover what else is new, given what is known. This question is the basis of investigating" truth". And so, to understand the epistemological element of one's paradigm, one should ask the very important question of "how we know what we know?" If factual evidence is accepted as true, then epistemology can help a researcher ask factual questions like "How do we know the truth?" What constitutes knowledge? When attempting to articulate answers to the questions raised above, researchers can draw on four sources of knowledge. Intuitive knowledge, authoritative knowledge, logical knowledge, empirical knowledge, and other types of knowledge are examples of these sources. This is known as rationalist epistemology or logical knowledge if the researcher emphasises reason as the surest path to knowing the truth. If, on the other hand, the researcher emphasises the understanding that knowledge is best derived from sense experiences and objective facts, the approach is more emphatically empirical.

Epistemology is important because it assists the researcher in developing trust in the data. It influences how the researcher discovers knowledge in the social context under investigation. The study aimed at understanding factors of internal stakeholders' perception towards embedding e-learning at the TVET college. In order to understand the problem, a practical research method was applied, and methodical and logical explanation of the philosophical concept of epistemology and paradigm was required.

Further investigation is needed to understand if researcher's assumptions are true and what can be done to improve the different aspects of pedagogy and quality perception in e-learning system, according to the study. This study is essential because the researcher believes that current e-learning systems are limited in how they deliver value. This study used a case study, phenomenological and grounded methods to understand the epistemic imperative. The next section focuses on the strategies of enquiry used in the study to select the methods that seek to answer the question of inquiry.

3.2.2 Research Paradigm

According to TerreBlanche and Durrheim (1999), the research process has three major dimensions: ontology, epistemology, and methodology. According to them, a research paradigm is a comprehensive system of interconnected practice and thought that defines the nature of inquiry along these three dimensions

The argument is that human beings are not to be studied in a laboratory but in their environment since they are influenced by things that are happening around them. Interpretivists are of the opinion that the social world cannot be studied using the same methods and techniques in human sciences. It is also a cluster of beliefs that stipulates what research is to be done and how results are to be interpreted (Bryman, 2012, as cited in du Plooy-Cilliers, 2015).

The purpose of this study was to explore the internal stakeholders' perceptions towards online learning, the factors influencing imbedding e-learning and the strategies that can be used to embed e-learning at the selected TVET college. As a result, the paradigm allows the researcher to investigate the internal stakeholders' perceptions of embedding e-learning and the interpretation of the problem from the perspective of the internal stakeholders in the TVET college. Interpretive researchers believe that reality is made up of people's subjective experiences of the outside world; and as a result, they may hold an inter-subjective epistemology and the ontological belief that reality is socially constructed. Willis (1995) defines interpretivists as anti-foundationalists who believe there is no single correct path or method to knowledge. According to Gephart (1999), interpretivists believe that knowledge and meaning are acts of interpretation, so there is no objective knowledge that is independent of thinking, reasoning humans.

The constructivist theoretical viewpoint recommended that in order to understand the research problem created by researchers should involve human participants, as well as various data collection instruments (Creswell, 2009 and Leavy, 2017). The researcher's interpretation of data was merged from individuals, cultural and historical experience by the platform to engage with participants (Crotty, 1998, Creswell, 2009:26). The interpretivist or constructivist paradigm was used to understand the research problems of this study and interpreted the experience of the participants through applying qualitative study.

3.3   RESEARCH APPROACH

This study focused on a case study, participatory inquiry, interviewing and interpretive analysis. Qualitative research is a field of inquiry and has methods connected to social interpretive studies. There are many detailed and separate literature on methods and approaches such as case-study, politics and ethics.

3.3.1 Defining the qualitative research method for the study

Research is an important activity in both business and academic endeavours. As a result, it is critical that research be accurate and precise. Creswell (2013) defines research as a strategy for conducting research. This entails the intertwining of philosophy, designs, and methods.

Mingers and White (2010) define research methodology as a structured set of guidelines or activities to assist in generating valid and reliable research results. The qualitative method includes the participants' verbal and written responses (Golubovic, 2015).

According to Onwuegbuzie et al. (2013), there are six major components of the qualitative research process. These components include philosophy, research, sampling design, data generation, data analysis, legitimation, meaning-making, and presentation. According to Creswell (2012), and Suter and Cormier (2015), qualitative research begins with a question and a framework based on theory; however, it focuses on inquiry and data generation in an original setting.

This is consistent with the findings of MacGregor and Wathen (2014), who emphasise that the goal of using the qualitative method is to delve deeper into the phenomenon and understand it in its natural context. Furthermore, qualitative research is appropriate for studies involving participant interpretation of actions and interactions (Golubovic, 2015). This is because interpretivists believes that the truth is dependent on a participant's interpretations of facts and not generalising their results. Snyder and Chester-Fangman (2011) argue that qualitative research is used to understand the meaning of how people construct their philosophical thinking in order to validate their understanding of the world they live in. According to Wahyuni (2012), qualitative research is an inquiry and exploratory study of phenomena and experiences in their natural setting. Textual data, stories, and narratives are typically recorded digitally in photographs, tapes, or written notes when recording verbal data in the qualitative approach. Words are used by the participants to express their responses and personal experiences. For data acquisition, research data-generation strategies are used. Barrat, Choi, and Li (2011) justify the use of the qualitative approach by stating that it is best suited for gathering oral data

from participants rather than numerical data. The study's findings were interpreted by analysing the statements of the participants in order to synthesise the data and draw conclusions.

3.3.2   Addressing the challenges and benefits of using qualitative method

3.3.2.1 Challenges using qualitative research method

Silverman (2010) contends that qualitative research methods can overlook contextual sensitivities in favour of focusing on meanings and experiences. For example, the phenomenological approach seeks to discover, interpret, and comprehend the participants' experiences (Wilson, 2014; and Tuohy et al., 2013).

Conducting research in the midst of the Covid-19 pandemic, like other aspects of society, necessitates adaptation while ensuring research quality. Overseeing high-quality qualitative research is difficult because quality standards vary depending on the paradigm on which the inquiry is based, the proposed research strategy, and the object of interest (Sparkes & Smith, 2009).

As a result, some researchers assess qualitative research quality based on adherence to a set of criteria and standards. Conducting research during this pandemic requires more strategy and quality standards to collect data from the participants. While technology-based interactions for qualitative research may be preferred in the Covid-19 context, some in-person data collection may be required. By the fall of 2020, the use of facemasks in the TVET colleges settings was mandated in many areas around the world as an effective way to prevent infection. This means that face-to-face interviews may not have been avoided in some instances during the collections of data from the participants in the TVET college.

Blessing et al. (2015) emphasise the possibility of bias from the researcher and participants. There are no other constraints impeding the pursuit of the truth. These include sociological, ontological, and methodological aspects (Mouton 2002:29)

➢ Sociologically, there was no constraint of the researcher lacking knowledge of the subject of investigation, nor was there biased interpretation of data or poor judgment about various decisions in the research process.
➢ Ontologically, the constraint of the complexity of human behaviour, which may have made future behaviour impossible to predict, was not visible. The study did not include morals/emotions/spiritual aspects of human behaviour, which are extremely difficult to observe or measure systematically.

> ➢ The methodological constraint of selecting a method or technique was insufficient, and it failed to account for limitations that were particularly unique to the approach.

3.3.2.2 Benefits using qualitative research method

The use of qualitative research approaches and methods has some advantages. To begin, the qualitative research approach generates a dense (detailed) description of participants' feelings, opinions, and experiences, as well as interprets the meanings of their actions (Denzin, 1989).

Some argue that the qualitative research approach (interpretivism) holistically understands the human experience in specific settings. Denzin and Lincoln (2002), for example, stated that qualitative research is an interdisciplinary field that encompasses a broader range of epistemological viewpoints, research methods, and interpretive techniques for understanding human experiences. The interpretivism research approach is considered an ideographic research, the study of individual cases or events (Kelin and Myers, 1999); and it has the ability to understand various people's voices, meanings, and events. In this approach, the meaning of various events serves. For data collection, qualitative research methods such as participant observation, unstructured interviews, direct observation, and describing records are most commonly used (Cohen, Manion, and Morrison, 2011).

During data collection, the researchers interact directly with the participants, as is done during the interview data collection. As a result, data collection is both subjective and detailed. Rumsey, Thiessen, Buchan, and Daly (2016) used face-to-face and telephone interview techniques to collect data on people's feelings, perceptions, and opinions about online learning.as the source of knowledge (Richardson, 2012). The structure of a qualitative research design (interactive approach) is more flexible because the design can be built and rebuilt to a greater extent (Maxwell, 2012). As a result of using qualitative research methods, thorough and appropriate analyses of an issue can be produced, and participants have enough freedom to determine what is consistent for them (Flick, 2011). As a result, even the most complex issues are simple to grasp. Researchers, for example, acknowledged that, due to the nature of classroom dynamics, students' behaviour may be influenced by a variety of factors outside of the scope of the research.

The qualitative method yields comprehensive, deep, and rich data that is sometimes surprising. Despite the subjective nature of observation and the process of describing the phenomenon in its natural context, the method provides a more comprehensive understanding of the situation than the quantitative method. In contrast to the quantitative method, there is no preview of the

answers to why and how questions. One of the interpretivists holds that common sense guides people in their daily lives and that understanding or grasping their view of common sense is required (Du-Plooy-Cilliers, 2015). Researchers, on the other hand, do not generalise results because they are dependent on people's interpretation of facts. Fouche and Schurink (2012) cautioned researchers working on an epistemological model to generate theory from empirical data in order to indicate from the initial design that some additional decisions may be made when carrying out the studies, and some designs may be added as the research strategies and practices evolve.

Qualitative research is well suited to investigating, describing, and explaining how changes in policies and practices during the pandemic could be adapted and implemented based on internal stakeholders' perceptions of their needs, concerns, and preferences, (Chafe, 2017). Qualitative research can also shed light on how individuals and groups perceive and respond to these changes, as well as better inform its epistemology, theory, methodology, and methods. (Morse, 2015). According to Denscombe (2010), qualitative analysis is advantageous because it allows for the acceptance of ambiguity and oppositions while also allowing the researcher to use their interpretative skills because more than one explanation can be obtained. However, qualitative research necessitates a significant amount of time from the investigator during interviews, transcription, and data coding.

3.4   RESEARCH DESIGN

3.4.1   The Design

The process of research design refers to the collection, analysis, and interpretation of data generated from participants in order to answer the research questions (Ngoako, 2011). Creswell (2013) defines design as the generation/collection of data, analysis, and drawing of conclusions. Throughout the process, the design is carried out (e.g., problems and ethical issues). According to Leedy et al. (2013), the research design connects the research components in an exploration of possible answers to the overall research questions. Onwuegbuzie et al (2016) have identified more than fifty qualitative research designs. Creswell (2013) proposes that qualitative research designs include narrative research, case studies, grounded theory, ethnography, and phenomenology. Leedy et al. (2013) add that, in addition to case studies, other designs in the qualitative method include ethnography, narrative grounded theory, and phenomenology.

The research design can be viewed as the realisation of logic in a set of procedures that optimises the validity of data for a given research problem. According to Mouton (1996:175), the research design serves to "plan, structure, and execute" the research in order to maximise the "validity of the findings." It provides guidance from the underlying philosophical assumptions to research design and data collection. Procedures for selecting study participants and collecting and analysing data in the study.

Yin (2003) goes on to say that "colloquially, a research design is an action plan for getting from here to there, where 'here' may be defined as the initial set of questions to be answered and 'there' is some set of (conclusions) answers." (p. 19) According to van der Westhuizen (2002), based on a meta-analysis of research topics and methodologies in South Africa, the most common application of qualitative research in instructional technology appears to be case studies. Conceptualisation of research the qualitative research design chosen for this study included interviews, observations, and documents. Rather than determining cause and effect, qualitative research provides an understanding of a situation or phenomenon by telling the story (Fraenkel & Wallen, 2003; and Glesne, 1999). Observations, interviews, and document analysis are all methods for conducting qualitative research.

3.4.2 Case Study

A case-study design entails investigating a given phenomenon in its natural setting. According to Creswell (2013), case study designs are used for inquiry in a variety of fields and are used by the researcher to develop an in-depth analysis of the cases. These case studies are influenced by factors such as time, activity, and the use of various data-generation procedures Yin (2012). Gillham (2000:1) defines the term "case" as "a unit of human activity embedded in the real world, which can only be studied or understood in context. "A "case" can be made up of one or more case studies. Multiple-case studies include two or more cases within the same study, with each case predicting similar or contrasting results for different reasons. A multiple-case study approach was chosen for this study. This is based on Yin's (2003) suggestion that if the results of one case are obtained, they can serve as a means of confirmation for the other cases. Furthermore, a case study design entails studies involving distinct factors that influence a phenomenon. This phenomenon can occur as a result of a specific program or event (Leedy et al., 2013).

The selected TVET college at Ehlanzeni district in Mpumalanga province was among the institutions involved. A case study is a lengthy and detailed description of a social phenomenon

that occurs in the real world. It describes the scenario in which the phenomena occur in detail to recount a real-life situation. (Bless, Higson-Smith, and Sithole, 2020).

This study describes real-life accounts of internal stakeholders' perceptions of embedding e-learning at the selected TVET college, and thoroughly describes their scenario in the context of real-life experiences with embedding e-learning in the TVET college. A case study allows for in-depth investigation in order to provide a complete and thorough understanding of the situation by interviewing participants about their lived experiences, thereby giving people a voice (Gomm, Hammersley, and Foster, 2004).

According to Willig (2008), case studies are distinguished not by the method used to collect and analyse data, but rather by the focus on a unit or event of case analysis. The case can be about an individual, an event, a company, or a situation (Stakes 2005). A case study design was most appropriate for this research because it is a single case that focuses on one phenomenon within the campuses of TVET college in Mpumalanga, so this study is considered an intrinsic case study. The research question can be easily answered using the methodology chosen by the researcher, which includes focus group discussions, semi-structured interviews, structured and unstructured interviews. The case study design, as well as the methodology implied, allow for sensitivity to be used in the context of this case, and there is no generalisation of the context being studied (Du Plooy-Cilliers, 2015). Nonetheless, the purpose of this study is to investigate internal stakeholders' perceptions of online learning at TVET College in Mpumalanga Province.

3.4.2.1 Challenges of using case study

There are some questions about what constitutes a good case study. Many scholars have disputed the answers because they are subtle (SAGE 2008). However, the researcher believes that this case study will raise awareness and allow TVET college stakeholders to accelerate any processes to address this phenomenon.

One difficulty is that if certain learning is not documented from the start, the case study researcher may miss it. Without processes and mechanisms in place for data collection, it can be difficult to capture this accurately at a later stage of the stakeholders' life cycle. The stakeholders may also have developed its own personality or character, and the participants' mood at the time may have influenced the information (Case Study Workshop, 2005).

Another issue raised by researchers at the Case Study Workshop 2005was the issue of time constraints. In the limited time available, the case study researcher/writer may struggle to understand the perception of the stakeholders towards embedding e-learning at the TVET college. There is no doubt that time will be limited, which will impact how much they can really get the participants responses.

Funding is another significant challenge for the case study. If there is a lack of funding, the researcher may not have access to all of the opportunities that would help them capture the information they require. It may result in a lack of funds to visit key sites where research activities are taking place, or it may deny them the opportunity to meet with key stakeholders who can provide more detailed information in the TVET college.

According to Enslin (2015), another limitation that this research may have had to investigate is accessibility; the participants may not have been available at the time the researcher arranged to meet for data collection, resulting in appointment rescheduling. This could have hampered progress in terms of time and delays in completing the research in the time allocated

Despite the limitations encountered in this research, these limitations guided the researcher in reporting the findings and contributed to the liability and validity of research findings (Enslin 2015)

3.4.2.2 Addressing challenges incurred in using a case study

The researcher used a structured qualitative design that was purposefully designed so that the findings could not be generalised in order to make assumptions about the factors influencing embedding e-Learning at TVET college. Prior to scheduling an interview, the researcher decided with participants and ensured that there was a venue available to conduct the interviews in the campuses of the TVET college.

The researcher observed that there was no or very low noise levels when recording interviews and obtained written consent from the participants prior to the scheduled interview in the TVET college. The qualitative method chosen by the researcher was designed to use various criteria to determine the trustworthiness or credibility of research findings. This was divided into credibility, transferability, dependability, and conformability (Lincoln and Guba (1985), and Koonin, 2015)

Another advantage of case studies is that the necessary data can be gathered over a long period of time. As a result, the researcher can go far beyond a cross-sectional snapshot of a process

(Ghauri, 2004; Johnston et al., 1999; Leonard-Barton, 1990; Miles & Huberman, 1994; Stewart, R.A et al., 2002; Tellis, 1997b; and Yin, 1994). This is especially important when looking into topics like institutions' complicated internationalisation process.

3.5   RESEARCH METHODOLOGY

The research method is a method of inquiry that progresses from underlying assumptions to research design and data collection (Meyers, 2014b). Qualitative research methods were developed in the social sciences to allow researchers to study social and cultural phenomena.

Qualitative research is naturalistic in nature; it aims to investigate the daily lives of various groups of people and communities in their natural environment; it is particularly useful in the study of educational settings and processes. Qualitative research takes an interpretive, naturalistic approach to its subject matter, attempting to make sense of, or interpret, phenomena in terms of the meanings that people assign to them (Denzin and Lincoln, 2003).

Different knowledge claims, inquiry strategies, data collection methods, and data analysis techniques are used in qualitative research (Creswell, 2003). Observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher's impressions and reactions are all examples of qualitative data sources (Meyers, 2014b). Data are gathered through direct observation of behaviours, interviews, written opinions, or public documents (Sprinthall, Schmutte, and Surois, 1991, p. 101). Written descriptions of people, events, opinions, attitudes, and environments, as well as combinations of these, can be data sources.

3.5.1   Site

This research is being conducted at a public TVET college in the Ehlanzeni District Municipality of Mpumalanga Province. Mines near Barberton and tourism destinations in the Ehlanzeni district surround the college. The location was chosen because the college is in the same district which aided in the discovery of answers to this phenomenon, and they were easily accessible to the researcher.

This research was carried out at three campuses of the selected public TVET college in the rural and semi-urban areas of the Ehlanzeni District. The study's first location was rural Mlumati in Nkomazi municipality, the second was Mbombela's urban area, and the third was Barberton's semi-urban area. The researcher chose these sites because online learning presents

some difficulties for lecturers and students. The sites were appropriate for the research questions posed in chapter one.

The map below (figure 3.1) shows three districts of Mpumalanga Province, one of which is Ehlanzeni.

Figure 3.1 Mpumalanga Municipalities//municipalities.co.za

3.5.2 Sampling Procedure

According to Saunders, Lewis, and Thornhill (2009: 280), regardless of the research questions and objectives, a researcher must collect enough data to answer them. In the research, Neuman (2014) defines the population as "a group of people who share common characteristics." The sample consisted of a group of people from whom data was collected from selected members of the study, and all participants from institutions were kept anonymous McMillian and

Schumacher (2010). The research was conducted at the selected TVET College, focusing on NC(V) and Report 190 and Report 191 programmes, as well as Business Studies and Engineering Studies. In a focus group, only the students were interviewed. The criterion used to select internal stakeholders as participants in this study was on "Factors Influencing Embedding e-Learning at TVET College in Mpumalanga Province".

This study involved 17 participants from the selected TVET college's Central Office and seven campuses, including the Principal and 2 Deputy Principals Academic, 3 Campus Managers, 1 Student Support Manager, 4 lecturers from each campus, and 7 students from selected campuses. The participants were selected to give their perspective on factors that influence embedding e-learning at the TVET college to answer the main research question and sub-questions of the study.

3.5.3 Data collection strategy

Data were gathered through the following methods: interviews, observations, and documents Researchers will be able to validate and cross-check findings by collecting data from multiple sources (Patton, 1990). Documents were gathered and evaluated as additional resources for the study.

The research sample was drawn from an exploratory case study that included participants who used e-learning at the TVET college in previous years during level five lockdown, as well as those who are currently studying, lecturers who were teaching at the college, and all other internal stakeholders. The researcher attempted to understand the nature of the case study (Gomm, Hamersley, and Foster 2000) by exploring their journey of study as experienced at TVET college. Unstructured focus group discussions, structured, and semi-structured interviews were used to collect data. Internal stakeholders from senior management took part in two separate one-hour sessions. This enabled the collection of extensive data from the two groups. For lecturers and students, a half-hour one-on-one interview session was sufficient; there was no need for another organised session.

Participants were available, and the data collected was sufficient to draw conclusions. The information gathered was used to select participants for an investigation into the factors influencing the integration of e-learning at the TVET college (Strydom & Bezuidenhout, 2014). They emphasised the fact that it was a small group of six to nine people. For this study, each focused group interviewed a maximum of five participants at a time (Strydom and Bezuidenhout, 2014).

The Covid-19 regulations by World Health Organisation (WHO 2020) and the South African Covid-19 Regulations (2020) had to be followed during all the interview processes. The places used for conducting interviews had to be fumigated all the time, sanitiser had to be available in all venues, social distancing of about ½ meter had to be maintained all time and lastly temperature check had to be conducted at the venues before engaging with the participants.

4.5.4   Data Analysis

Although qualitative data analysis is considered easier than quantitative data analysis, data are transformed into findings through analysis and interpretation (Bezuidenhout & Cronje 2014). According to De Vos, Strydom, Fouche, and Delport (2011), in Bezuidenhout and Cronje (2014), qualitative data analysis is the process of bringing order, structure, and meaning to a mass of data. This study focused on conversation analysis and content analysis. This study used content analysis to investigate, identify, avoid, and convert themes and patterns embedded in stakeholders' perceptions of e-learning at the TVET college. According to Zhang and Wildemuth (2009) in Bezuidenhout and (Cronje 2014), qualitative content focuses on unique themes that illustrate the range of meaning of the phenomenon rather than statistical significance, and this study focused on those unique themes.

3.5.5   Researcher's role

According to Strydom and Bezuidenhout (2015:182), the following are important steps to keep in mind when doing field research:

• The researcher establishes rapport with the participants being studied, resulting in a close, harmonious, and sympathetic relationship with the participants. This allows the researcher to collect more useful and relevant data.

• One needs to immerse themselves into the society that one is studying to experience the day-to-day dealings of the community.

• Making detailed notes as well as detailed recordings of the thoughts and feelings of the community that are being studied is paramount.

• The researcher avoids falsifying information or distorting results. The researcher needs to avoid inappropriate research methods which may allow bias to influence the interpretation of results.

• Lastly, consolidating data that have common trends that surface during the research process. The researcher guards against being subjective and focus are on the participants' responses and not on personal feelings and opinions.

The framework provided by Tesch in Creswell (2009:186) was used by the researcher because it offers practical and useful steps for the systematic analysis of qualitative data. Cohen et al. (2011) provide additional guidelines for typical qualitative data analysis, which the researcher carefully considered throughout this process. The framework employed had the following eight steps:

Step 1: Obtain an overview by carefully reading all of the transcriptions and writing down any ideas.

Step 2: Choose one document at a time from the pile and go through it carefully, annotating in the margin.

Step 3: Once the above task is completed with a few documents, write a list of all the theme ad group similar themes together. Identify main themes.

Step 4: Use the list of themes and code each theme by providing different abbreviations. This process assists with the identification of new codes.

Step 5: Try to use the most descriptive wording for themes and place them into categories. Group similar categories together ensuring fewer categories.

Step 6: Finalise abbreviations for each category and alphabetise them

Step 7: Collect data from one category in one place and start a preliminary analysis.

Step 8: If necessary, re-code the existing data.

This framework enabled the researcher to systematically identify themes and sub-themes, which increased the scientific nature of the study by grounding data analysis in a theoretical framework. To confirm the scientific value of this study, the researcher verified the qualitative data by following the steps outlined above and ensuring the data's trustworthiness. Cohen et al. (2006:286) provide guidelines for verifying dependability: a discipline observed by the researcher throughout the process. Theoretical foundation was critical for informing logical research questions. The design was adequate and sound throughout in terms of methodology, operationalisation, sampling, and ethical defensibility. The researcher went to great lengths to ensure that the data was reliable and that the interviews were conducted with discretion,

sensitivity, and courtesy. The researcher transcribed interviews and ensured that the oral to written medium was correctly translated.

3.6   TRUSTWORTHINESS OF THE STUDY

The researcher believes that data collection methods that accurately measure "what they were intended to measure" are crucial to trustworthiness. Saunders et al. define it as the "degree to which research findings are truly about what they profess to be about" (Saunders et al. 2012:684), while Creswell reminds the researcher that it is a continuous process that occurs at each stage of the process. "Qualitative validity denotes that the researcher verifies the accuracy of the findings..., whereas qualitative reliability denotes that the researcher's approach is consistent" (Creswell, 2014:251). Yin (1994:33) concurs that there are several strategies for dealing with truth in case studies. Because qualitative researchers do not use numbers as evidence, they must rely on other criteria to determine the dependability or credibility of their findings. The goal of qualitative research is to gain a more complete understanding of a phenomenon.

This study aims to increase understanding of the phenomenon while also preserving credibility, transferability, dependability, and confirmability (Lincoln & Guba 1985, as cited in Koonin, 2015). The researcher purposefully addressed the trustworthiness of qualitative data through honesty, depth, richness, and scope of the data obtained, as well as an attempt to remain objective throughout. Through careful sampling, the design of appropriate instrumentation, and the appropriate treatment of the data, trustworthiness was improved and enhanced.

3.7   ETHICAL CONSIDERATIONS

3.7.1 Ethical research phase 1

The participants were informed that they would be taking part in the study. Formal notification, including written letters and consent, was returned to the researcher. It was also critical for them to understand the expectations for participation, as well as whether and how identities were protected and whether or not the results were published.

The participants were also informed that no incentives would be provided; however, if the need for refreshments arose, the researcher would consider it because some of the data would be collected after hours for working participants. Questions were prepared for focus groups and

interview facilities, where interviews with internal stakeholders, such as senior management, management, lecturers, and students, were outsourced. There was a signed agreement between the researcher and the participants to keep records for the purpose of the research and nothing else.

3.7.2 Ethical research phase 2

The researcher ensured that everything needed to conduct the research was present and that everyone and everything needed for the research, such as informed consent forms, data collection recorders, dealing with sensitive information, avoiding the provision of incentives, avoiding harm, dealing with confidentiality versus anonymity, and avoiding deception, was followed Louw (2015).

3.7.3 Ethical research phase 3

Data were collected from participants while ensuring their physical and psychological well-being was a top priority. They were informed that their sensitive personal information would be safeguarded. There were no awkward situations, and their time was not squandered. There were no incentives for participating in the study, and no refreshments were provided during data collection. It was critical for the participants to know that confidentiality would be maintained.

3.7.4 Ethical research phase 4

Analysing and interpreting qualitative data necessitates the transformation of data into findings. According to Bezuidenhout and Cronje (2015:229) there are some distinct concepts in qualitative research. They are as follows: textual, iterative, hermeneutic, subjective, constructed, and symbolic. When analysing data, this study used iterative, hermeneutic, and subjective methods. The researcher had to be especially vigilant about ethical issues and their importance throughout the research, particularly during the design stage, where concerns could be anticipated.

3.7.5 Ethical research phase 5

The first step was to transcribe data collected in order to get a general sense of the information gathered. Notes and impressions were also taken, allowing the researcher to gain a better understanding of the material collected (Bezuidenhout & Cronje 2015). The following step was a coding unit, also known as a concept by the researcher. It was the one that indicated whether

phrases, individual words, symbols, or paragraphs were used as coding units. This study used phrases because they were easy for the researcher to remember when interpreting data.

As Zhang and Wildemuth (2009:313), as cited in Bezuidenhout and Cronje (2015:242), there were some things to keep in mind when interpreting:

- Be able to explain the relationship discovered by the researcher.
- Extraneous information should be considered,
- as should all relevant factors affecting the problem in order to avoid incorrect interpretation.

The process of coding, analysis, and interpretation was described as accurately as possible. The qualitative content analysis for this study was not digitally captured, but it was translated into phrases and words to capture intonations and inferences that could lead to additional thematic linkages (Bezuidenhout & Cronje 2015).

The following ethical issues are highlighted for the researcher to consider: "Integrity and objectivity; respect; avoidance of harm; privacy; voluntary participation; right to withdraw; informed consent; confidentiality and anonymity; responsibility in analysing and reporting; data management compliance; safety" (Saunders et al., 2012:236-237). Each of these aspects was considered and addressed at each appropriate stage of the investigation. The researcher

ensures that the participants were assured of the confidentiality of the information provided, that their names were kept anonymous, and that the location where the interviews were conducted was secure. Participants were also reminded that they had the option to withdraw from the study at any time.

3.8 BENCHMARK FOR EVALUATION CRITERIA OF DISSERTATION

This was based on how thorough the research was, and the credibility was based on how extensively the researcher had consulted sources and used existing information to support his points of view and findings. Another consideration was how well the researcher interpreted the data and maintained the credibility of the findings.

3.9   CONCLUSION

The purpose of this study was to look into the factors that influence the incorporation of e-learning at the TVET college. The methods for collecting and analysing data were described. The research goal was based on the perceptions of the internal stakeholders about online

learning at the TVET college in Mpumalanga province. The research methodology used in the study was discussed in this chapter. The researcher investigated several research paradigms through a review of existing literature, and the research paradigm that was chosen was discussed along with the motivation for the choice. The chapter described how the data were gathered. It also discussed the data collection measures, research approach design, methodology, challenges, and limitations, as well as information about the population and site. The chapter outlined ethical principles. The following chapter delves into data analysis.

CHAPTER FOUR

4. DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 INTRODUCTION

The previous chapter focused on a discussion of the research methodology. This chapter contains findings from in-depth interviews with the participants and documents reviewed by the researcher at the selected TVET college in the Ehlanzeni District Municipality in Mpumalanga province. It seeks to find out what are the perceptions of the internal stakeholders towards embedding e-learning at the TVET college. In this study, seventeen (17) participants were asked some questions at their campuses, and each has a study name as presented in this chapter. This chapter consists of demographic characteristics of the study participants, followed by themes that emerged from the categories, supported by descriptions of the participants. The responses from in-depth interviews were analysed.

This chapter also presents the findings of the qualitative portion of the study, in which data were gathered from the following internal stakeholders: students, lecturers and management of the selected TVET college. The chapter presents data verbatim, so the information is presented exactly as stated by the participants.

The data were presented and discussed in terms of the aims of the study and research questions. The relevant available literature revealed a gap in the lack of understanding, knowledge and education on how to use recent technologies in teaching and learning environments has become a challenge for lecturers in the college Almohaisen (2007). How to close the gap of online learning as a delay in communication that is reported by various researchers (Howland & Moore, 2002; Petride, 2002; Hara & Kling, (1999); Vonderwell, (2003). Suitable pedagogy and platform for different campuses of the college need to be explored further. How lecturers and students are oriented on the use of different online learning tools during and after the Covid-19 pandemic.

As indicated in chapter one, this study aims to determine the perceptions of the internal stakeholders towards embedding e-learning at a TVET college.

How to deal with the challenges that in the teaching and learning in an online learning in the TVET college?

The sub-questions are:

- What are the challenges facing the internal stakeholders' perception in the implementation of e-learning at a TVET college?
- What are the factors influencing embedding e-learning at a TVET college?
- What are the strategies that can be used to embed e-learning at a TVET college?

4.2   BIOGRAPHICAL INFORMATION

Table 4.1 contains the biographical information of the participant students of the TVET college which includes name, gender and NQF level. Table 4.2 includes name, gender, experience and position of the lecturer. Table 4.3 includes name, gender, experience and position of the managers at the TVET college.

Table 4.1: Biographical information of students involved in the study.

Participant	Study Name	Gender	Course and Level	Section
Student 1	SB1	Female	Financial Management N6	NATED/Report 191Business Studies
Student 2	SB2	Female	Office Admin Level 3	NC(V) Business Studies
Student 3	SM1	Male	Finance, Economics and accounting L4	NC(V) Business Studies
Student 4	SM2	Male	Mechanical Engineering N3	NATED/Report 191 Engineering Studies
Student 5	SM3	Female	Information Technology and Communication Level 4	NC(V) Engineering Studies

Student 6	SN1	Male	Management Assistant N5	NATED /Report 191 Business Studies
Student 7	SN2	Female	Electrical Engineering N5	NATED /Report 191 Engineering Studies

Table 4.2:   Biographical information of lecturers involved in the study

Participant	Study Name	Programme and Level Responsible For	Experience in TVET college	Section
Lecturer 1	ML1	Information Technology and Communication L2 - 4	5 years	NC(V) Engineering Studies
Lecturer 2	BL 1	Financial Management N4 - N5	8 years	NATED/Report 191 Business Studies
Lecturer 3	BL 2	Office Administration L2 – 4	14 years	NC(V) Business Studies
Lecturer 4	BL 3	Generic Management L3 – 4	9 years	NC(V) Business Studies

Table 4.3:   Biographical information of managers involved in the study.

Participant	Study Name	Level of Responsible	Experience in TVET college	Section
Campus Manager 1	CM1	Campus Management	15 years	Campus Management
Campus Manager 2	CM2	Campus Management	15 years	Campus Management
Campus Manager 3	CM3	Campus Management	14 years	Campus Management

Participant	Study Name	Level of Responsibility	Experience in TVET college	Section
College Principal	CP	College Principal/CEO	10 years	Central Management
Deputy Principal Academic	DPA	Deputy Principal Academic Affairs	15 years	Academic Central Management
Student Support Manager	SSM	College Student Affairs	6 years	Student Support Management

4.3   RESEARCH QUESTIONS, THEMES AND SUB-THEMES

Research questions, themes and sub-themes are reflected in Table 4.4 and thereafter a detailed explanation of themes and sub-themes is given.

Table 4.4.1:   Research Questions, Themes and Sub-themes for Students

Research questions	Themes	Sub-Theme
1) What are the challenges facing the students' perception in the implementation of e-learning the TVET college?	4.4.1 Theme 1 Challenges in the implementation of e-learning.	4.4.1.1 Challenges in the implementation of online learning. 4.4.1.2 Unwillingness/Refusal in using e-learning 4.4.1.3 How difficult or easy is it to use e-learning technology?
2) What are the factors influencing the	4.4.2Theme 2	4.4.21 e-Learning as option for teaching in the college.

embedding of e-learning for TVET college students	Factors influencing embedding e-learning	4.4.2.2 Support on resources to learn 4.4.2.3 Continuations of e-learning in the future. 4.4.2.4 Thoughts on e-learning lessons during the pandemic. 4.4.2.5 e-Learning as compared to classroom learning 4.4.2.6 Time spend on e-Learning
3) What strategy can be used to embed e-learning for students at the TVET college.	4.4.3. Theme 3 Strategies to be used to implement e-learning	4.4.3.1 Advice to new students about e-learning 4.4.3.2 Change in the college.

Table 4.4.2:   Research questions, themes and sub-themes for lecturers

Research questions	Themes	Sub-Theme
1) What are the challenges facing the lecturers' perception in the implementation of e-	4.4.1. Theme 1 Challenges in the implementations of e-Learning	4.4.1.1 The recent use of technologies (replacement of lecturers by robots)

learning at the TVET college.		4.4.1.2 Challenges during the lesson
2) What are the factors influencing the embedding of e-learning for lecturers at the TVET college.	4.4.2. Theme 2 Factors influencing embedding e-learning.	4.4.2.1 Change in Technologies. 4.4.2.2 Student readiness for e-learning and academic performance. 4.4.2.3 Computer literacy and e-learning adoption. 4.4.2.4 e-Learning styles and its continuation. 4.4.2.5 Effects of change on students' understanding. 4.4.2.6 Benefits of online learning.
3) What are the strategies that lecturers can be used to embed e-learning at the TVET college.	4.4.3 Theme 3 Strategies that can be used to implement e-learning.	4.4.3.1 Training in digital competencies. 4.4.3.2 Teaching pedagogy. 4.4.3.3 Online learning improvements. 4.4.3.4 Approaches to final examination.

		4.4.3.5 Motivation to students.

Table 4.4.3: Research Questions, Themes and Sub-theme for Management

Research questions	Themes	Sub-Theme
1) What are the challenges facing the Management's perception in the implementation of e-learning at TVET college?	4.4.1. Theme 1 Challenges in the implementations of e-learning.	4.4.1.1 Challenges preventing e-learning success. 4.4.1.2 Readiness for e-learning.
2) What are the factors influencing embedding e-learning for management at the TVET college.	4.4.2. Theme 2 Factors influencing embedding e-learning.	4.4.2.1 Digital age to online version 4.4.2.2 Benefits of e-learning for the college. 4.4.2.3 Success of an e-learning plan in achieving the objectives of curricula. 4.4.2.4 Expansion of e-learning in the college. 4.4.2.5 Effectiveness of e-learning, e-examination and e-teaching.
3) What are the strategies that can be used to	4.4.3. Theme 3 Strategies that can be used to implement e-learning.	4.4.3.1 e-learning plan strategies.

embed e-learning at the TVET college?		4.4.2.2 Continuation of e-learning after Covid-19.

The main purpose of this method is to capture something important from the data collected in relation to the research question. It can be used to generate better insights and findings for conducting the thematic analysis process for this study (Denscombe 2010).

A discussion of three identified themes and sub-themes are presented in detail, and each is supported by direct quotes taken from interview responses of the participants in the study. Each participant has a study name as shown in tables 4.4.1: 4.4.2 and 4.4.3 above. The study has highlighted the issues related to students' expectations and the challenges that can interfere with effective online teaching and learning for students in the TVET college, and the kinds of problems they encounter during online learning.

RESEARCH QUESTION 1: WHAT ARE THE CHALLENGES FACING THE STUDENTS' PERCEPTION OF THE IMPLEMENTATION OF E- LEARNING AT THE TVET COLLEGE?

4.4.1   THEME 1:   Challenges in the implementation of e-learning in the college

The study has highlighted the issues related to students' expectations and challenges that can interfere with effective online teaching and learning for students in the TVET college. Sangeeta Kakoty et. al. (2011) analyse the recent e-learning procedure and show the new aspect of research work on this area that follows the important and most neglected research areas till today in this domain. This study analyses the importance of the e-education system and the recent market of e-learning methods.

4.4.1.1 Sub-theme 1: Challenges in the implementing online learning

A type of a problem that occasionally occurred during online learning was a lack of networks. Students live in various communities. Portable laptops and computers are examples of resources that are lacking due to a lack of money, information, or time. There are times when no electricity is available during class, preventing them from connecting and studying. It is difficult to provide a small number of subjects online. Connection or data issues may prevent access to the internet. Inadequate information is caused by network connectivity issues, a lack of data and computer skills, and the high cost of data. A participant said:

The kind of problems that we encountered during online learning was sometimes lack of network because we all reside in different areas of South Africa. For some, it's lack of resources, lack of data and lack of a time. Sometimes for those who don't have portable laptops and use computers. During those classes there is no electricity so they are unable to connect and study during those classes. The programs that are offered on these e-Learning portals the subjects and are very limited. [SB1

It was discovered that to participate in online teaching and learning, the majority of students require connectivity, data, and computer skills. There were only a few subjects available online. According to the literature review, the researcher agrees with the participants' viewpoint that most students are unable to connect due to a lack of data and poor connectivity.

4.4.1.2 Sub-theme 2: Unwillingness/Refusal in using e-learning

Students' lack of data is a common occurrence. Since online learning necessitates a large amount of data, students are still primarily engaged in face-to-face teaching and learning, for example. Lack of social interaction, lack of self-motivation and effective time management skills, and failure to prevent cheating online learning is frustrating by itself, technology creates barriers. Contact classes are preferred by students over online courses. Information exchange in online learning is constrained by time. The student's viewpoints were as follows:

Contact classes are less frustrating than the online classes. Anything that has to do with technology actually creates a barrier on its own. So contact classes are easier because there are less barriers. It is easy to exchange information in that particular time compared to online learning where we have 30 minutes, and we're only limited to speak for a certain amount of time. [SB1]

It is because they don't have access to data. As online learning requires so much data and most students are still fixed on the contact learning because they feel it is easy to understand content. [SM2]

It requires self-motivation and proper time management skills, lack of social interaction and also cheating is also not avoided. [SN2]

We need to be connected and yet the college is not providing for other students. That means you need more data to connect. [SN1]

The interviews revealed that most of the students have no prior experience with online learning. They needed skills to log in to online. Computer skills were a challenge because most students were unfamiliar with the latest technologies for online learning. Some students were unmotivated to use online learning because they valued contact and social interaction. Overdependence on technology can be a significant disadvantage in distance learning, especially when teaching and learning take place online.

4.4.1.3 Sub-theme 3: How difficult or easy is it to use e-learning

Most students found it difficult to use e-learning because they had not been exposed to virtual teaching and learning. It was difficult for students to use computers because the majority of them had not been exposed to or were unable to use computers. This made it difficult to find information online. It may be difficult for students to stay connected because this will be their first experience with it. Internet connectivity is a problem in South Africa due to load shedding. At times, it can be difficult for students to connect. Students struggled to learn due to insufficient data and unstable internet connectivity. Computer labs and computers are insufficient. They pointed out as follows:

I think for majority of our students it was very difficult because most of them have never been to virtual meetings. So the connecting to virtual classes was a problem. Most of them were unable to use computers especially the new students who have arrived in our campuses straight out of high school. [SB1]

It is very much easy to use e-Learning technology, but the problem is that they have never attempted to use such before. For them it is new so in that case, it makes it difficult for them. The biggest problem is internet connectivity as we are facing the load shedding in South Africa. [SN1]

The research found that although e-learning has some benefits that it is being implemented in teaching and learning, it also has some disadvantages in the learning process to students. Studies have proven that e-learning possesses some disadvantages in a teaching and learning environment (Collins et al. 1997; Klein and Ware, 2003; Hameed et al, 2008; Almosa, 2002; Akkoyuklu and Soylu, 2006; Lewis, 2000; Scott et al. 1999; Marc, 2002; Dowling et al, 2003; Mayes, 2002).

RESEARCH QUESTION 2: WHAT ARE THE FACTORS INFLUENCING EMBEDDING E-LEARNING FOR STUDENTS AT THE TVET COLLEGE

4.4.2 THEME 2: Factors influencing embedding e-learning

4.4.2.1 Sub -Theme 1: e-Learning as an option for teaching and learning in the college

One of the students believes that e-learning is not the best option for the college because it limits students' ability to excel in lectures. Students no longer have access to the lecturer after class. There could be numerous interruptions that prevent students from exchanging connect information with lecturers. The student said:

In the college, personally in our college, I do not think that e-Learning is the best option for us, because it limits the excellence that students have to the lectures because as soon as the class ends online, you no longer have access to your lecture to ask some of the things. [SB1]

During the interview, the student agreed that e-learning was not the best option for college teaching and learning. The student believes that face-to-face learning is preferable and also mentioned his or her frustrations with online learning.

Some students believed that some of the issues had to with Covid-19, which had an impact on teaching and learning. Students could not rely on face-to-face teaching and learning in the college. Students had to adjust to new technologies in order to learn. They said:

Yes. Because student can learn at home at their own time that with no restriction on areas and also interact with the other lecturers via video call or texting SMS. [SN1]

I do believe, the Covid-19 pandemic has taught us that we cannot rely on the face-to-face teaching and learning forever. We need to adapt and learn to do things in a new way. E-Learning save time and money both for the lecturers and the students. A lecturer can teach over more than 400 students from various campus at the same time. [SN2]

The world is changing digitally; remember we are in a Fourth Industrial Revolution. so we must get used to technology, it goes beyond schooling, it doesn't go beyond streets if we introduce e-Learning at college, it will be an advantage for the technology that is coming and the technology we have right now. [SM1]

It is not really the best option, but it can be linked with contact learning to add more knowledge and also serve as reference for the students when they're at home or revising for exams. [SM2]

Yes, because I think with e-Learning is the best option, especially with Fourth Industrial Revolution (4IR). [SM3]

During the interview, the students stated that e-learning saves time and money for both students and college lecturers. Lecturers can teach as many students as they can from different campuses at the same time. During the 4IR era, e-learning can be an option for teaching and learning. The world is changing digitally as it enters the 4IR. The college must embrace technology. Incorporating e-learning into the college curriculum will benefit both current and future technology. Although not the best option, e-learning can be linked to contact learning. While they are at their respective campuses, students can refer to their work for revision (Clark and Berge (2005); highlighted that, one of the benefits of online learning is that it provides students the opportunity to experience life and learning outside their local communities. Researchers have identified flexibility as part of the strength of the online learning setting (Petrides and Schrum, 2002).

4.4.2.2 Sub-Theme 2: Support on resources to learn

Resources were not offered to the same students, that is, no gadgets were given to learn. Data was a problem as some students could not be offered it. The resources they give to students is when they offer the lessons over radio. The college has not provided the student with enough resources for online learning. They said:

Our college unfortunately did not offer any resources to our students. the only resource they tried to offer was over the radio of which it was also a problem because they offered less than 10 subjects. I can say the college did not really reach its full potential in offering the relevant resources to the students during the pandemic. [SB1]

In that case, the college hasn't provided us with enough resources to learn from home. [SN1]

The institution does provide many laptops and also allowances. [SM1]

Not helpful currently we are not given data in order to access the internet. [SM2]

It was great that some students including some of us got laptops. As a result, we were able to write assignments, as well as present using the school provided laptop. [SM3]

During the interview, it was discovered that the students were frustrated with the college's online learning resources. To address differences in the cost-effectiveness of online learning for students or in the context of resource constraints, the college can direct additional financial opportunities for online teaching and learning in the college.

4.4.2.3 Sub-Theme 3: Continuation of e-learning in future

One of the students believes that, due to limited resources, online learning will no longer be effective in the college in the future. The available resources can be used in face-to-face teaching and learning. The participant said:

In our college personally, I support the discontinuation of online learning because I think right now, with all the problems that we're having in the limitations that we have, we are actually wasting great resources that can be reinvested into physical teaching and learning within our campuses. [SB1]

The participant went on to say that online learning can continue as the world advances in technology. Said that: *I think research and extensive remodelling of the applications we have, it will continue to be useful in the future especially given the fact that we are in the Fourth Industrial Revolution. So I think if they fix all the minor problems and barriers we have it will continue to be a useful tool in the future. [SB1]*

Given the world's progress toward the 4IR, it will continue to be useful in the future. If the college can resolve some issues, e-learning will continue to be a valuable tool for teaching and learning.

Some of the students thought that e-learning would continue in the college in the future. The importance of online education has grown among students. Loyen, Magda, and Rikers (2008), cited in A Nwankwo, state that the growth in online education has increased competition among post-secondary institutions. Online learning has become an increasing emphasis on attending to student satisfaction during the teaching and learning process at the TVET college. They said:

Yes, I support the continuation of online learning. Students will also be used to using computers in the industry computer skills are mostly required in all sphere[SM1]

As a nation, we are moving towards the Fourth Industrial Revolution and everything is going to be technology.

A participant further highlighted that:

We are moving towards Fourth Industrial Revolution like I say in other countries or continents. Some of them they are already in the Fourth Industrial Revolution, they are moving towards the fifth. [SM2]

Technology changing, us we should not hold on back from the past, so as much as the technology is moving, also we must implement what comes with technology. [SM3]

e-Learning is expected to continue, despite the issues raised by students during online learning. Online learning must continue because technology is constantly changing, and the college must adapt to the new technology.

4.4.2.4 Sub-Theme 4: Thought on e-learning lessons during pandemic

The Covid-19 pandemic or coronavirus pandemic has been declared as the deadest disease around the world (World Health Organization in March 2020). The DHET has pleaded with the higher educational institutions to conduct teaching and learning from a face-to-face mode of teaching and learning to online. (Ministry of Education and Culture, 2020)**.** Lecturers and students were expected to abandon traditional methods of teaching and learning in order to adapt to online learning. In the college, students were taught through media such as television and radios. The students said:

The learning program was a great strategy that was put into place to ensure that we did not fall behind in our studies during the pandemic, but it was not properly implemented to its full potential. [SB1]

e-Learning was another form or programme of learning that was established to narrow the problem that was disrupting the education sector due to the pandemic. [SN1]

I thought that online learning was an immediate response to Covid-19 but they did provide a remedy. [SM1]

e-Learning was the strategic planning of bridging the gap between disturbances that happened during teaching and learning. It is a good strategy as it helps lecturers and students to continue with the business of the day, even in the comfort of their own homes during the pandemic. [SM2]

I can say it was a quick response from the government because we had the Covid-19, so in terms of a contact classes and stuff, they were not happening so it's some sort of quick emergency response from the e-learning side, it really helps some students, some of them didn't rely on it because most of the students they're not used to e-learning. [SM3]

During the interviews the participants saw online learning as the programme to bridge the gap during Covid-19. The study found that online learning has been conducive to students who favour self-regulated learning (You & Kang, 2014). The TVET college students can study at their own pace, doing their research on the tasks given to them and submit completed

assignments to their lecturers online. Online learning allows the students to work at a time and a place that is convenient with their learning necessities.

4.4.2.5 Sub-theme 5: e-Learning as compared to classroom learning

The participants believed that the traditional method of teaching and learning was the most widely accepted mode of teaching and learning in the college for students. The majority of the students come from rural or low-income families. They said:

I think contact classes are superior to e-Learning classes because, it doesn't limit the communication between the lecturer and the student. The lecturer is honest arrived on campus to address any problems that the student has compared to contact classes. Once the lecture is offline, there's a possibility that you may not be able to reach them until the class the following day. [SB1]

No, I don't, because most students, especially in rural areas do not have access to technology and also traditional classroom instruction has as an added advantage, as lecturers are able to identify students who are struggling and also monitor the attendance of students. [SM2]

During the interview, students expressed their belief that the college should continue with face-to-face teaching and learning in order to benefit both rural and semi-rural students, as well as those from low-income families. According to Cavus and Zabadi (2014), the study has found that the change from the traditional paper and pen environment, face-to-face and blackboard learning management systems is one of the most highly adopted and used online environments in higher education institutions for e-learning.

A participant felt that there was no need to attend because teaching and learning could be done online. The participant explained:

Online learning is more effective than traditional because it gives you more time to freedom. Student can live in complete online education course within their timeframe as compared to traditional learning. One can open start videos at his/her own time. No need of going to an institution for attending lectures. [SN2]

The college should consider e-learning as a teaching and learning option. It is the best mode of learning for students because they will not have to attend class but will be able to access their lessons online.

4.4.2.6 Sub-theme 6: Time spend on e-learning

According to Alrheme and Almardeni (2014), the study aimed at finding the students' viewpoint about time in terms of planning, organising, directing, and control and its effect on academic success as well as identifying individual variables effects on academic success. This is what they said:

On an average a day I spend about an hour because of the limited subjects online. [SB1]

You need a day because I see on online learning is helpful, in getting all the information. [SB2]

Half of my day on the online. [SN1]

Almost half of my time during the day I use on personal development or research and learning. [SM1]

I can say four hours I don't includes breaks and just say four hours on my time. And I can use another four hours, to attend classes and to revise. [SM3]

The time spent online per student was found to be more or less than five hours per day for teaching and learning, planning and organising. According to the findings of the study, students who work on computers spend more time attempting to complete their tasks online at the TVET college. The college must plan the time for online teaching and learning as well as how it will manage, control, and organise online.

RESEARCH QUESTION 3: WHAT STRATEGY CAN BE USED TO EMBED E-LEARNING FOR STUDENTS AT THE TVET COLLEGE?

4.4.3 THEME 3: Strategies to be used to implement e-Learning

4.4.3.1 Sub-theme1: Advice to new students about e-learning

Students must be advised on how to use the internet and be informed of the benefits of using the internet in their learning. They should give each other advice on how to keep their online learning effective. They said:

With online firstly, I would advise them to read beforehand their work so they can note down the questions and be able to set times for them to be able to speak within the given times so that they don't end up being rhetorical. Secondly, they should familiarise themselves with computers. [SB1]

To use laptop and computers in all the subjects, for the students to have more information on how to use computers. [SB2]

Advise them to support the program for which it will be developing, saving them time and money to go to the campus every day. [SB3]

Treat online like a real course and, create a regular study based and study organised. [SN2]

I would advise them to learn as much about computer so they don't have problems with e-Learning, I would advise them as much as possible as there's a problem with e-Learning nowadays. [SM1]

The advice I can give to them is that they must be familiar with e-Learning because we are moving towards the Fourth Industrial Revolution. [SM2]

During the interviews with the participants, they emphasised the importance of online learning in the student learning environment at the college. As a result, the college should encourage lecturers and students to use e-learning, the internet, interactive video, and simulated classes, which may help them learn more effectively while being separated from one another.

4.4.3.2 Sub- theme 2: Change in the college

There is a need for the change in the college to invest in the new technologies as the world is advancing to the new technology. The students are of the view that classrooms should be modernised, new resources be put in place for online learning. They felt that teaching and learning can be accessed easily with the new technology. They said:

I would like the college to actually invest more into technological gadgets that will make contact classes easier to perform for example, we have now smart boards. The lecturers can actually access the structures easily than just pulling them out of their mind. [SB1]

As we are in the Fourth Industrial Revolution of technology, many things have changed. So I would like to see the college transformed from the manual system to the online electronic system. [SN1]

Providing more computers and also issue of laptop to students to help them study or do assignment. [SN2]

One thing I want in the college is to create more computer labs for students. [SM2]

For effective teaching and learning in the college, the college must invest in the new technology. In order to accommodate new technologies, infrastructure must be improved. The importance and effectiveness of e-learning in the teaching and learning process must be

emphasised by the college (Masino, 2015). Students should have access to resources for their online learning.

RESEARCH QUESTION 1: WHAT ARE THE CHALLENGES FACING THE LECTURERS' PERCEPTION IN THE IMPLEMENTATION OF E-LEARNING AT TVET COLLEGE?

4.4.1 THEME 1: Challenges in the implementation of e-learning

To make teaching and learning more effective in our current education development, especially in the 21st -century classroom, it is a necessity to incorporate technology in the teaching and learning process. The acceptance of online learning in current years leads to an increased number of online course offerings by TVET colleges (Beatty and Ulasewicz, 2006; Li and Akins, 2005).

4.4.1.1 Sub theme 1: The recent use of technologies replacement of lecturers by robots

As new technology advanced, lecturers needed to adapt. As time passes, technology evolves. However, lecturers believed that technology could not completely replace traditional methods of teaching. They said:

Referring to the lockdown that we had as a country, after Covid-19 was discovered in our country. Schools were closed and students were forced to remain at home and study via e-learning. e-Learning is whereby lecturers were recording themselves, the lesson is always sent to students. This is the supporting statement to say in the near future, we can see something like robots replacing lecturers. [BL1]

I think that can happen, but It's not going to happen anytime soon as I think that the government or our institutions, they are not yet ready even if they can introduce the robots. Those robots I don't really think that they will be able to fully emulate what a human being can do when he or she is in class. [BL2]

I do not believe that a lecturer can ever be replaced by a robot, at least in this present dispensation because I believe that information technology is just an enhancement, which is there to improve teaching and learning. In no way can it replace the influence of a face-to-face contact between a student and the lecturer. [BL3]

No, Students need to have a lecturer that can be here physically, as learning is not only about learning information, but it must also involve interaction, where a student can ask question

and get a response on the spot, during the learning session. So, you cannot replace a person with a machine. [ML1]

During the interview, it was emphasised that technology is here to stay, and that lecturers must adapt to it and have some current skills for teaching and learning in college, as technology is constantly changing.

4.4.1.2: Sub- theme 2: Challenges during the lesson

e-Learning implementation in online learning can be more challenging in the way that the college can have limited infrastructure that includes simulated classrooms and poor internet connections for effective teaching and learning in the TVET college. Inadequate lecturer knowledge and skills to use learning technologies lead to another major problem for effective e-learning implementation, lecturers were of the view that resources were insufficient for the effective teaching and learning. They said:

On online lessons, the problems that we are experiencing is sometimes the connectivity. It can be also the access to the lesson itself by the students in terms of where they log in online. [BL1]

The use of gadgets makes use of a computer, which gives you access to anything. So it's possible that you're attending or teaching a class online. Perhaps you're using a large Microsoft Teams or Zoom, and the student is attending class on his or her cell phone. [BL2]

The most obvious problems with online learning is the problem of power outages. We are living in an age where there is a very serious national problem. In so far as electricity energy distribution is concerned, it's common cause that we suffer from load shedding. [BL3]

In essence, it can be most of experiences connectivity problems while presenting a class if it online all of sudden students that are offline to say that we don't have data or we lost connectivity. [ML]

According to the interviews, the college's infrastructure challenges include simulated classrooms, poor connectivity and insufficient data (Jiří Zounek and Petr Sudický, 2016). Eskom's load shedding schedules were also a national issue because it affected the entire country. When the electricity went out during the lessons, it resulted in an incomplete lesson for that day.

RESEARCH QUESTION 2: WHAT ARE THE FACTORS INFLUENCING EMBEDDING E-LEARNING FOR LECTURERS AT THE TVET COLLEGE?

4.4.2 THEME 2: Factors influencing embedding e-learning

Factors that influence embedding e-learning in the TVET college is how technology changed from the traditional way to the technological way of teaching and learning (Ni She et al., 2019, cited in Fedelis Remmi and Harwati Hashim). How students will view this new technology, the use e-Learning and what are the benefits of e-learning in the college.

4.4.2.1: Sub-theme 1: Change in technology

According to the respondents, one of the necessary factors for the successful implementation of an e-learning system is technological factors. Effective use of technological tools in teaching and learning in other words, if students do not have access to technological resources for e-learning, they are less likely to understand during teaching and learning due to a lack of relevant technological skills. The participants explained:

I can say the new technology changes the education process. The new technology that is being introduced in the higher institutions of higher learning is whereby we can see that you can write a test without going into the class. [BL1]

This new development or new information technology improves the education system because information is now easily accessible to lecturers and students as a result of technology. Like for example, if we want policies, we able to get them from the website of Department of Higher Education and Training. I think with these changes the education system, it will make things easier for students, lecturers, management and even the curriculum developers. [BL2]

I believe that in so far as the new information technologies impact on the education process at the college is concerned. The other influence which I could ascribe to IT, in processes of the college is that if you're using IT, students often receive feedback immediately. [BL3]

Students can learn remotely instead of contact classes, meaning more content can be covered, compared to the usual class time, it means we can give more information. [ML1]

In an interview, all the participants agreed that the use of technology benefits both lecturers and students at the college. The college must consider transitioning from traditional teaching and learning methods to new technology.

4.4.2.2 Sub-theme 2: Student readiness for e-learning and academic performance.

The study was carried out to determine student readiness and the factors that influenced their readiness for online learning during the Covid-19 pandemic in the college (Naji et al., 2020). The study validated the students' academic performance and readiness during online teaching and learning. According to the lecturers, most of them will need time to adjust to online teaching and learning. Their views:

According to me, when I rate I can say we are still at less than 50% On this one, because in terms of readiness of students to migrate from a manual process to e-Learning why I'm saying we're still under 50% is because most of these public colleges are located in rural areas. [BL1]

I also think that students are not yet ready for this online learning, simply because we come from a previously disadvantaged nation. So the students are not yet ready be able to be taught via online. [BL2]

That's a very difficult one because we must note that at the college e-Learning was very shortly. So, by virtue of the fact that it only lasted for a short period during Covid-19 pandemic. It becomes very difficult to find the correlation between their readiness for e-Learning and their actual academic performance. [BL3]

With e-learning we can see, currently they've been improved very much because of technology to them is fast adapting, I can see we are in the adapting stage. Then after they receive that there will be improvement of results more than before. [ML1]

The interviews confirmed that not more than 60% of college students are prepared for online teaching and learning. According to some lecturers, students need time to adjust. The college should also provide more resources to help students improve their academic performance.

4.4.2.3 Sub theme 3: Computer literacy and e-learning adoption

The study discovered that lecturers at TVET colleges were not exposed to computer work prior to and after 2003. Face-to-face teaching and learning activities were shifted to an online learning system. The college intends to invest in e-learning-based lectures as well as in recruiting and training lecturers to teach online (Floyd, 2003) and Koehler et al, 2004, cited in Kulal, and Nayak, 2020): Lecturers were expected to be able to provide teaching and learning materials via remote digital devices. They explained:

Those who had were exposed to do the computer literacy before2003 as an employee, according to my view, they will be used to this computer. The only thing that will be challenging them is the matter of the social media because it was not there, but through the trainings through the assistance of the institutions where we are working, I think more lectures will be able to adapt in this. [BL1]

Well before 2003 And after 2003 I think a lot of more especially black lectures and teachers, they didn't have access to these gadgets and computers. development started happening day we started having access to those computers. So what I would say is that right now lecturers are computer literate as compared to before 2003. [BL2]

I believe that there is a difference between computer literacy because as far as I'm concerned, computer literacy is just about the basic application of computing. When comes to e-Learning adaptation before and after 2003 the e-Learning platform as far as I'm concerned, its focus is more on communication. Whereas computer literacy is not necessarily focused on communication. [BL3]

More lectures now can adapt easily because we are in a technological era. Before they were not even use to computers it was futile to train a lecturer to use computers while they do not have that knowledge. To teach with a computer while you do not know the computer, you really need to adapt. [ML1]

The participants agreed that lecturers needed to be developed because they were not exposed to computers and thus were unable to use them during their teaching and learning in college. Some lecturers were computer literate but could not use computers in their teaching and learning.

4.4.2.4: Sub theme 4: e-Learning styles and its continuation

The study revealed that the transition from college teaching and learning to online was the catalyst for the Covid-19 pandemic. To accommodate the situation, lectures had to be adapted to the new program. They shared:

During the Covid-19 in 2020, I was also part of the distance learning. The online learning is what was offered. So according to my view, I prefer that this e-learning can continue. [BL1]

I do prefer to continue on with this e-learning because access to it, it's bigger than the traditional teaching. It was for students to access to finishing in the traditional teaching they

have to come to attend classes but with e-leaning even if the student can travel to as far as Cape Town, but that student can still be able to access tuition. [BL2]

I certainly would prefer to continue with e-learning because at the time when it was introduced, despite the fact that it was during Covid-19 one cannot take away the merits of e-learning, so I would prefer that we continue with e-learning. [BL3]

We can continue with it, even though we are still busy with a class like the classroom learning. We can continue because it does give them more information. And with typical service or let's say online classes, you can record and save. Student can always go back to access the information and be able to learn easier. [ML1]

During the interviews, the participants stated that online learning was the solution to teaching and learning during Covid-19. The students were able to continue with their tuition without interruptions in the college.

4.4.2.5 Sub theme 5: Effects of change on students understanding

According to the findings of the study, students prefer e-learning as a mode of teaching and learning. The lecturers see this change as beneficial and understandable. Their views:

This change it will have a positive effect because e-Learning when I look at it, in my own opinion, it helps us to think and to see how we can socialise. In those online sessions you will be informed of where can you get more information regarding the lesson in terms of research. [BL1]

With this one the effect is going to be positive because some of the textbook will teach a certain section in the text, will also give you a website which you can also access information that can also further make the students to understand even better that topic you are busy with. [BL2]

According to the findings, e-learning is preferred for teaching and learning. The college should ensure that the necessary resources for learning are in place. Two of the lecturers believe that the effects of change on students' understanding are that some students differ and may be unable to change because they do not have the same resources as others. They said:

What students think at this point in time, there is a great deal of grief amongst students because they don't have laptops and then access to the internet. Once all students have access to the laptops and the internet, it will be easier to solicit their opinions about e-learning. [BL3]

Am I okay with the level of students that are in class they might be those that can be able to succeed but you might also have a problem with those that they are still learning the technologies that are failing the content. Another thing they may have a problem with is connectivity. [ML1]

4.4.2.6 Sub theme 6: Benefits of online learning

Online teaching and learning provide an appropriate structure for ensuring consistent and meaningful interactions between the students and lecturers, as well as encouraging the formation and evaluation of effective learning groups.

This 100% the online learning is providing more than the face-to-face benefits. In online learning you will be able to retrieve the lesson, in face to face you won't. You will be saving cost. So it will be saved because now they will be attending classes whereas they're at home saving a lot. [BL1]

Online learning is more beneficial than face-to-face learning, because the lecturer is not expected to travel, he or she can simply conduct lesson at home with your students online. Student's attendance will not be an issue. [BL2]

I can say it cannot provide the same benefits as you are in class, the advantage of online is that you give them detailed knowledge. They can do more research online. They can learn at any time like at home in the relax space. So that can be more advantage to them than the face-to-face lectures. [ML1]

RESEARCH QUESTION 3: WHAT ARE THE STRATEGIES THAT LECTURERS CAN USE TO EMBED E-LEARNING AT THE TVET COLLEGE?

4.4.3 THEME 3: Strategies that can be used to implement e-learning

The research found that the technology in online teaching and learning can motivate the students' thinking, and also provides immediate feedback and promote participation among them, Elmahdi (2018). The study has found that technology has helped online teaching and learning to switch the classroom from a lecturer-oriented to students- oriented learning environment (Sorensen, 2005).

4.4.3.1 Sub-theme 1: Digital training in competencies

The study has found that online learning or e-learning's rapid developments in technology have made online teaching and learning simple for students in the college (McBrien et al., 2009).

Some of the terms, for example, online learning, open learning, web-based learning, computer-mediated learning, blended learning, m-learning have in common the ability to use a computer connected to a network, that offers the possibility for lecturers to teach from anywhere, anytime, in any pace, with any resources the lectures need. They explained:

The training that I will say every lecturer I'm including myself then we require on is the usage of these different programs that are used to conduct the e-Learning which can include the following: the zoom, the teams, which is offered by Microsoft, and YouTube as well one whereby we will have access to record all those teachings and then we send it to the students. [BL1]

I do know how to use a computer. I do know how to access information online or how to use this digital platform, but my problem is when maybe the platform is not working, so I think the training that I would need it's an IT training. [BL2]

So one of the most critical skills that I would like to learn during this digital teaching would be to find ways for ensuring that students remain tuned in and participate actively. Basic IT competencies that are required, namely knowing how to mute and unmute by way of an example in between conversations. [BL3]

I will prefer to be trained more on e-Learning technologies suppose they may be recording a class using virtual reality to present a class. [ML1]

Interviews with the participants revealed that digital training for the college lecturers is required to ensure effective teaching and learning.

4.4.3.2 Sub-Theme 2: Teaching pedagogy

When conducting teaching and learning in their field, online lecturers must overcome a narrow view of the new emerging use of technology. Different subjects from various college programmes necessitate various methods of online learning (Doucet et al., 2020). During the Covid-19 pandemic, e-learning tools were critical in facilitating student learning while institutions of higher learning were closed (Subedi et al, 2020). They said:

I recommend full distance learning, because I also studied through full distance learning. [BL1]

Some of the students they do want to see a lecturer in front of them. I think online learning is one of the best, but I would also recommend that we continue with a blended learning where

students will have to choose if he or she is comfortable with online learning or is comfortable with face-to-face learning. [BL2]

I would strongly recommend fully blended learning because that is the future. The aim of education is to develop the learner holistically. [BL3]

Blended learning, because they have the benefits of online and a traditional way which means you're able to meet all the requirements of the students. [ML1]

The participants in the interviews agreed that blended learning and full distance teaching and learning should be preferred. The college must consider adopting new educational formats and technologies with such zeal that they run out of resources to support fundamental pedagogical research and adequate online lecturer preparation.

4.4.3.3. Sub-Theme 3: Online learning improvements

The study has shown that online learning needs to be improved by buying new gadgets. The lecturers at the college require resources for their teaching and learning. They said:

We can improve it through the assistance of our government to supply more infrastructure in the rural areas. If they supply more infrastructure, in terms of connectivity, and then the students will have access to the online learning. [BL1]

To improve online education, the students must have dedicated gadgets like they must have a computer that will only allow them to focus in the class that they are busy with at that time. [BL2]

The first place to start would be one to ensure that your students have access to laptops, computers and or the internet because these are critical to or they're the foundations of online learning. If you don't have access to all of these resources, then you cannot make a start. [BL3]

First of all, we address the problem, we give them free connection to the institution. We provide more training on how to work on the technologies because someone might have a laptop but not know how to submit an assignment. We give practical exposure to technologies, giving centres that they have technology so that they may have more knowledge on that. [ML1]

When familiarising themselves with the new changes, lecturers' and students' readiness needs to be evaluated and supported in using the technologies in the college. Training for lecturers in online teaching and learning should be provided at the college.

4.4.3.4 Sub-Theme 4: Approaches of final examinations

The college must have a backup plan in place for administering final examinations. The college must have the necessary resources to conduct online examinations. Different perspectives from the lecturers emerged. According to the lecturers, they must have knowledge and skills in order to conduct the final examinations. They said:

The best approach I recommend that the online if it was possible for the colleges it must be implemented. This will assist us to identify to minimise the issue of cheating. It will also assist us to come up with possible strategies for students to be resulted in time. [BL1]

The best approach can be conducting online exams even though the college is not ready to conduct these exams. So I think the best approach is introduction of these applications, which will ensure that students do not cheat during the online examinations. [BL2]

The following lecturers believe that e-learning is not the best option for conducting final examinations in the college. Their views were:

I don't believe that using online platforms to conduct final examinations is the way to go for. The issue of electricity which is unreliable and also the issue of interruptions during the course of the exam. The alternative should always have remained the traditional method of conducting examinations, as long as we find big enough venues which will also enable us to comply with the Covid-19 protocols. [BL3]

I can prefer a face to face even though Covid-19 doesn't allow that, because with online you will never be sure we currently don't have the system that we can be sure that we are able to monitor them when we invigilate. So it's best to have credible results, face to face I can prefer that one. [ML1]

The study discovered that online examinations can be preferred, but not everyone agrees. Some participants believe that face-to-face examinations are still preferable as long as the college follows Covid-19 protocols.

4.4.3.5 Sub-Theme 5: Motivation to students

The study demonstrates that lecturers can reach wide networks of students through online learning rather than being constrained by geographic boundaries. Intrinsic motivation occurs when an act occurs in the absence of any observable external rewards. There is either a simple enjoyment of an activity or it is viewed as an opportunity to explore, learn, and realise one's

potential (Coon and Mitterer, 2010). Students can attend classes through online learning from any location of their choice. Online lectures can be recorded, archived, and shared for later use, and students can access the course materials whenever it is convenient for them. They explained:

In an online class, for students to be motivated, I think the lecturer must use a platform that the students will have access to talk to the lecturer. So for them to be motivated it is a platform that you have to use which will keep them motivated. [BL2]

One of the things I would do to keep students motivated in an online class one would be to try and invite them as many as I can to hear out their input to the issues under discussion. The other thing that I could do to keep them motivated would be to also organise online breakaway sessions, where I allocate participants into several groups and give them a topic to discuss. [BL3]

Allow them to engage in a class. We allowed them interact with them to ask them to do a research and give a feedback. [ML1]

During the interviews the participants in the study revealed that students are motivated with online learning when they are at their own place and time. Being engaged by lecturers keeps the students motivated during online classes. Therefore, the college needs to provide them with enough resources to keep them motivated in online classes.

RESEARCH QUESTION 1: WHAT ARE THE CHALLENGES FACING THE MANAGEMENT PERCEPTION IN THE IMPLEMENTATION OF E-LEARNING AT TVET COLLEGE

4.4.1. THEME 1: Challenges in the implementations of e-learning

According to Alrheme and Almardeni (2014), the study sought to identify individual variables' effects on academic success as well as the students' perspectives on time in terms of planning, organising, directing, and controlling it.

4.4.1.1 Sub-Theme 1: Challenges preventing e-learning success

The study sought to overcome the barriers that might impede the success of e-learning in the college for effective teaching and learning for all college internal stakeholders. The senior management and campus managers shared their thoughts as follows:

The biggest challenge for now, we are moving into a new territory, so there's still a lot to learn, and that in itself is a challenge, but at the same time we have students that don't have the gadgets, smartphones, data and internet connectivity is big challenge even for us as officials. [CM1]

Number one is the network. Some students are coming from rural areas, so network coverage there sometimes is poor. Number two, some students they come from poor families in terms of electricity. The third one, might be the issue of security, sometimes some students they can be robed and lose their property. The fourth one, will be load shedding. [CM2]

Connectivity with our campuses is one of the fundamental challenges preventing effective online the process of allocating digital learning gadgets to students is going at a snail's pace. Therefore, the college should also prioritise onsite learning by providing data to both students and lecturers, to enable site interaction between the two parties. [CM3]

The first one is infrastructure. The infrastructure is not fully developed. [EM1]

The college indicated that we are ready, our system is ready which is a toss to the e-Learning the only thing predicted to be fully implemented at the appointment of the manager to show that system is checked what is actually implemented. [EM2]

It would be really great if the department assists the colleges to actually provide the learning devices for all students so that every student can be able to access the online lessons, unlike now the challenge that we have is that even in class of 30 students, maybe like only 10 have laptops. [EM3]

The findings also confirm that the employment of an e-learning programme manager for the college will be the solution to these challenges.

4.4.1.2 Sub-Theme 2: Readiness for e-learning

The study was carried out to determine the readiness of internal stakeholders and the challenges that influenced their readiness for online teaching and learning in the college during the Covid-19 pandemic. The management expressed the following challenges:

Students would say they are not ready, they don't have gadgets, data, this is what they normally say, though, we are saying our platform, or our website has been zero rated, but we still have challenges regarding that. I think it's just a matter of time that students would come to the fore. [CM1]

There was however, challenges with the delivery of the content that would help students in the learning approach. There is also the issue of connectivity that campuses and that accessibility problems also hinders the core college from achieving optimal learning success. [CM3]

The relationship between student readiness and e-learning and their academic performance my view is that e-Learning will have positive impact on the academic performance of students because they will be able to learn and do work in their own spaces in time when provided with the necessary resources. [EM1]

They are ready, although we have not started implementing it fully when Covid-19, took its toll, struck us, our academic programmes were disrupted big time, such that our students and some of our lecturers were forced to go and stay at home, but because we did not know how long it was going last we had to come up with a means, to ensuring that teaching and learning continued. [EM2]

During the interviews with the participants, it was discovered that the college is not yet fully prepared for online teaching and learning. The college must accelerate the implementation of e-learning during and after Covid-19.

RESEARCH QUESTION 2: WHAT ARE THE FACTORS INFLUENCING EMBEDDING E-LEARNING FOR MANAGEMENT AT THE TVET COLLEGE?

4.4.2 THEME 2: Factors influencing embedding e-Learning

Many lecturers and managers in higher education institutions have expressed their delight at the growth of digital technologies in the TVET colleges. Lecturers and administrators are working hard to realise their potential as a catalyst for transforming teaching and learning practices. There is an increase in the number of online course offerings, as well as an increase in the number of students who choose an online course (Margaryan, Bianco, and Littlejohn, 2013; and Gregory and Salmon, 2013).

4.4.2.1 Sub-Theme 1: Digital age to online version

During the difficult time of Covid-19, the concern is not about how online teaching and learning methods can deliver quality education, it is rather how the college will be able to adopt online learning in such a huge manner (Carey, 2020). The management has the following views:

We need to change to the new way of doing things, online version is the future. So yes we need to actually move to that direction as a college we are actually doing our best in making sure that such is achieved. [CM1]

It forced us to leave our traditional way of teaching and embark on e-learning. e-Learning if you can implement it fully we can save a lot of money in terms of traveling. Some of the subjects we cannot do them online they need practicals. [CM2]

I would not say it forces them to be changed, but it complements the systems. There is however a great need for the institutions to plan their teaching towards the digital methods because we are indeed living in a digital world and our methods of doing things should reflect that. [CM3]

In an ideal situation, the digital age is actually pushing for change it even seeks to change or its impact will be to change to more of online version of teaching. We as a college we are not yet there is still a lot of work to do, the facilities to deploy are not there. [EM1]

The institutions still need to engage in the face to face with the students. Students will still need to refer them to add to the library's look at the books because the eBooks although that is the one that is experienced in this one he/she can teach the other topic and other one teach other topic so that will be a benefit. aspect of eBooks. It's a bit difficult for many of my students, because not many of them have access. [EM2]

I think it did at this moment, I also think the impact is very good, because now we are moving away from the fact that a student has to literally go to the library, but instead, they browse the newspapers they read the newspapers. So I've felt like this digital age force, really partially erased the traditional way of learning and the traditional way of seeking information. [EM3]

The college has to change from the traditional way of instruction, that is face-to-face and blackboard, to online teaching and learning during the time of Covid-19 in the TVET college. The college must provide all necessary resources to ensure the smooth operation of teaching and learning.

4.4.2.2 Sub-Theme 2: Benefits of e-Learning for college

The study has found that technology has helped online teaching and learning to switch the classroom from a lecturer-oriented to a student's-oriented learning environment (Sorensen, 2005). The management explained the following views:

Well one of the things I am thinking of is that with e-learning you are able to reach a lot of students. e-Learning has the advantage that a student can actually learn at his/her own pace. [CM1]

e-Learning benefits the college in such a way that in paperwork, there will be the less paperwork. The lecturer can teach not his groups, but also the other campuses as long as they are connected on the same class at that time. [CM2]

The delivery of teaching and learning is well managed and learning material can be accessed by students at any time. Management can be able to monitor the learning process remotely and can better manage and utilise their time without compromising the learning process. [CM3]

The benefit of e-learning to management is the benefit for the Department of Education and Training. The benefit that we are most likely to achieve is, we will be able to meet our targets in terms of access. We will also be able to improve on our success if it is properly implemented. [EM1]

During the interviews with the participants, the institution discovered that e-learning has benefited the college. When it comes to enrolment in the college, the institution has benefited. The benefit of the college is the benefit of the department. Management may be able to remotely monitor the campuses.

4.4.2.3 Sub-Theme 3: Success of the e-learning plan in achieving the objectives of curricula

The process is currently underway. The lessons are recorded and uploaded on YouTube. One of the campuses has a studio where online teaching and learning can take place. The management explained:

As TVET college we are actually moving towards to achieving its objective regarding this is that as a college we have a studio in one of the campuses where we are actually learning to record lessons. Some have already been uploaded to YouTube what is left now it is actually for them to be uploaded to the college website. [CM1]

The success is that now e-learning closed the gap, especially in terms of the face-to-face teaching and learning and the Covid-19 that we faced for the past two years. They were supposed to be studying online. So, it means now the students instead of now losing number of days in the year, they are able to catch up using e-learning. [CM2]

The aim of developing an e-learning plan for TVET college was primarily to capacitate the college in its curricular delivery mechanism by bringing e-learning as an alternative mode of teaching and learning especially in situations where physical teaching and e-learning, could not be feasible during the Covid-19 pandemic. [CM3]

The plan itself is to have the necessary infrastructure, we need to ensure that the students themselves have access to the digital equipment's and data. with the support of NSFAS our students have got laptops. The plan is beginning to take shape we are working on blended learning is inclusive of e-learning. We are working on recorded lessons which lectures can do teaching remotely to our students. [EM1]

We identify different types of lectures across all seven campuses, who would form part of the LMS. Those selected individuals where then taken to training in order to prepare them for this programme. We also trained them to also be able to train their fellow lectures at campuses. [EM2]

According to the study, the college's infrastructure needs to be improved. to create e-learning instructional materials. It was necessary to prepare lectures and students for the new method of teaching and learning.

4.4.2.4 Sub-Theme 4: Expansion of e-learning in the college

The increase of digital technologies in the TVET college has been met with much enjoyment by many lecturers and managers in higher education institutions. Lecturers and managers pursue to exploit their potential use as a catalyst for transforming teaching and learning practices. The management said:

As a college our approach should lean towards it's because the Covid-19 pandemic has taught us that we ought to be ready for any eventuality, and even provided us with an opportunity to streamline our teaching and learning processes towards that approach. [CM3]

I do believe that we should expand modes of delivery to tap more into e-Learning I have no hesitation I strongly believe in one. [EM1]

The colleges need to make sure that the necessary resources are available across students and staff members. [EM2]

I think that would be a very good idea to actually continue with it even after the Covid-19 pandemic, looking at our infrastructure in the TVET college. We have infrastructure that needs

to be improved. I think continuing with the e-learning, it will assist in developing the independency in learning for our students. [EM3]

The findings indicate that e-learning should be expanded and continued in the college. It will make teaching and learning more enjoyable for both teachers and students. The infrastructure and resources required by the college must be prepared.

4.4.2.5: Sub-Theme 5: Effectiveness of e-learning, e-examination and e-teaching

The study has found that, increasing demand for online courses and severe competition, colleges are embracing new educational formats and technologies with such enthusiasm that they have no resources left to sustain fundamental pedagogic research and provide adequate online lecturer preparation. The management had the following views:

No, it's not effective. We still lack a driver in the college, who is supposed to drive everything was started but now we need someone who's going to drive it on a day-to-day basis not because of Covid-19 but it should be something continuous. [CM2]

When the systems are not adequately functional, there are however systems in place that are at an advanced stage and once they are properly in place, the college will be compliant with effective online learning processes. We should therefore, opt for eLearning as the only available mechanism that ensures effective teaching and learning does take place. [CM3]

Like I said we have not deployed online education fully in the college. The plan is to do it in future but for now I can't say it is effective because at the stage we are still planning for it, especially during Covid-19 we used remotely learning. [EM1]

I did indicate that we will develop a system which is part of e-learning, but we cannot say that it is efficient because we need to have somebody who will champion it. [EM2]

The college must employ an e-learning manager who will be the driving force and be solely responsible for the effectiveness of the college's online programme, which will run during and after Covid-19. The programme will become fully operational once the manager is appointed.

RESEARCH QUESTION 3: WHAT ARE THE STRATEGIES THAT CAN BE USED TO EMBED E-LEARNING AT THE TVET COLLEGE?

4.4.3. THEME 3: Strategies that can be used to implement e-Learning

Lecturers are influential individuals in the lives of students during online teaching and learning in the college. They need to engage in an authentic relationship with the students, addressing students' academic and emotional needs while being resourceful about anticipating unknowns (Henik, 2018). The literature study indicated that most investigations and models concentrated on one or a small set of selected factors such as computer anxiety (Brown et al. 2006; and Muse, 2003). The study concentrated on computers only as a source of online learning. Therefore, there was a need to examine e-learning cases using the full set of factors.

4.4.3.1 Sub-Theme 1: e-Learning plan strategies

The college had to select the best tool to use full-time. The college is beginning to provide students with devices for online learning. In order to implement online learning, the college had to work with some service providers. The management explained the following:

There are already plans to make sure that we take that direction, so the college is doing its level best to make sure that learning is a truly achieved that is the plan. [CM1]

Our plan is to implement it this year, and making sure that it's working. We once had a meeting with service providers or experts that have already implemented this thing. They started now to show us how to do it and our job was to choose the right tool to be used and the college they chose model. [CM2]

The college is embracing online learning. Teaching and assessment as a supplementary have been primary mode of academic quality. The senior management of the college needs to promote this mode of learning so that it can become a culture in all the college stakeholders'. [CM3]

As a new way, affordability prepares ourselves into e-learning. We begin to prepare ourselves in terms of infrastructure development, the students are already receiving the gadgets in capacitating, courtesy by the department excited for making those things available to students. [EM1]

You see the other thing that encourages the use of the social media so when we do the survey that we've been doing definitely make sure that we will defeat the pandemic in the sense that you will continue with teaching and learning those are the players on the college. [EM2]

Our plan as the college is to continue with the e-learning and also try to find sponsors that will assist our students to actually use the laptops or tablets as an essential in educational assets like books, making them as an asset for assisting students to get education. [EM3]

It was discovered during the interviews that the college needs to plan the time for online teaching and learning as well as how it will manage, control, and organise online teaching and learning activities. The college must accelerate the promotion of this mode of online teaching and learning so that it becomes the college culture for all internal stakeholders.

4.4.3.2 Sub-Theme 2: Continuation of e-learning after Covid-19

The study has found that online learning has a positive influence on students in the college (Febriani et.al, 2020). The study found that online teaching can increase students' creativity and self-independent during teaching and learning. The management said:

Yes, we the college has advertised the post is going to be a permanent position. NSFAS has already started delivering laptops. [CM2]

It is inevitable that digital learning is here to stay. As a college we need to streamline our learning management system to reflect that reality. All learning institutions are moving towards adopting e-learning as the primary method of teaching, because it is more user friendly and cheaper to implement than traditional methods. [CM3]

Covid-19 had its cons it also it has but it also came with some good things before Covid-19. We were not exposed to that much as a sector, the TVET sector to the effectiveness of the e-learning. It might be very difficult to undo all of the good things that we ended up learning during Covid-19. So, we are definitely going to use e-Learning post Covid-19. [EM1]

It will depend on revenues of the college, but the college have got all the resources and the gadgets to be used by both lecturers and students. If it can be implemented 100% then definitely, we can continue. remember although was introduced due to covid-19 and maybe that was an eye opener to see that we don't need to wait for a disaster to be fell us. [EM2]

It would be a very wise decision to continue even after. I believe it would really work for us as we are in an era. So, we would be in line with the development, the world innovation. So, I think that would be a very wise decision to continue with this even after Covid-19 era. [EM3]

During the interviews, the management stated that e-learning should continue in the college during and after Covid-19. All resources required for online teaching and learning must be prepared by the college.

4.4   SUMMARY

The analysis of data gathered through in-depth interviews was presented in this chapter. The findings show that there has been little progress for both lecturers and students in the implementation of e-learning in the selected TVET college. The findings also suggest several solutions that the DHET, the college's internal and other stakeholders can consider when implementing e-learning for effective teaching and learning.

The fifth and final chapter, chapter five, contains a summary of the major findings, conclusions, and recommendations.

5. SUMMARY OF MAJOR FINDINGS, CONCLUSIONS AND RECOMMENDATION

5.1 INTRODUCTION

The previous chapters introduced the study, presented the problem, provided a review of the literature, a study description and data analysis results. This chapter discusses the objectives' accomplishments, draws conclusions, and makes recommendations. The rationale of the study sought to learn how TVET college lecturers and students perceive the quality of online learning.

Curriculum content transfer has changed in education; internet-based learning, a wealth of educational software, and evidence of increasing use of online learning at TVET college approached for training in Mpumalanga Province (Rourke, 2010). The study's goal was to promote and assist lecturers and students in their teaching and learning. TVET college's online education had to adhere to and be grounded in sound learning theories (Wa-Mbaleka, 2013).

The researcher discovered that the majority of the TVET college students and lecturers lacked knowledge and skills for online teaching and learning. Insufficient resources and data appear to be a challenge for effective online teaching and learning at the TVET college.

5.2 OVERVIEW OF THE CHAPTERS

Chapter one

An introduction focused on outlining the research's background in this chapter. The chapter also discussed the study's rationale and problem statement, as well as clearly stating its goals and objectives. The study's theoretical framework, including research methodology and research design, was briefly explained. This chapter described the study's data collection and analysis, including the concepts and acronyms.

Chapter two

The second chapter discussed a literature review that focused on internal stakeholders' perceptions of embedding e-learning at a specific TVET college in Mpumalanga province.

Issues concerning students and lecturers were also discussed in order to fill any gaps that may exist. The advantages and disadvantages of online teaching and learning were discussed. This was followed by a definition of the readiness of TVET college students and lecturers for online teaching and learning.

An overview of literature review on studies conducted revealed that:

- An infrastructure in the college to be a challenge.
- Resources for teaching and learning in the college are also a problem.
- Not every student has the privilege of studying online due to social and family backgrounds.
- It was revealed that lecturers were not fully prepared to teach online due to limited resources in the college.
- The study revealed that most of the lecturers were not skilled and some were computer illiterate.

Chapter three

The third chapter discussed the study's research methodology. The chapter also described in depth a practical research method that was used, as well as methodological and philosophical concepts of epistemology and paradigm. The research methodology and design were also thoroughly described. Data collection and analysis procedures, study trustworthiness, ethical considerations, and benchmark for dissertation evaluation criteria used to answer the research question were all presented. The sampling method used to select the study participants was also discussed.

Chapter four

The fourth chapter examined research findings in terms of themes and sub-themes. The study's goal was to learn about the challenges that internal stakeholders face when implementing e-learning, the factors that influence embedding e-learning, and the strategies that can be used to embed e-learning at a TVET college in Mpumalanga province. The data were presented and discussed in light of the study's objectives and research questions. The participants' actual words were directly quoted. Throughout the chapter, the empirical findings and the literature review were compared and cross-referenced.

Chapter five

The final and fifth chapter presented a summary and discussion of the findings from the interviews. The chapter also addressed the study's limitations, as well as the final results. The chapter concluded by making recommendations based on the study's findings. It also made recommendations for future research.

5.3   SUMMARY OF MAJOR RESEARCH FINDINGS

The main research question is, "What are the perceptions of the stakeholders regarding embedding e-learning at a TVET college in Mpumalanga province?"

To answer the main question, the following sub-questions were formulated:

- What are the challenges facing the internal stakeholders' perception in the implementation of e-learning at a TVET college?
- What are the factors influencing embedding e-learning at a TVET college?
- What are the strategies that can be used to embed e-learning at a TVET college?

Research question 1: What are the challenges facing the students' perception in the implementation of e-learning at the TVET college?

4.4.1 THEME 1: Challenges in the implementation of e-learning in the college

According to the findings of the study, the majority of the students expressed frustration with online learning. They were frustrated by the amount of time they had to spend on online learning and the resources that had to be used during the lessons.

According to the literature review, the researcher agrees with the participants that most students are unable to connect due to a lack of data and poor connectivity.

The fact that students and lecturers live in different parts of South Africa posed a significant challenge to this study. One of the issues encountered during online learning was a lack of network connectivity. Some attribute it to a lack of resources, data, or time for those without portable laptops who must rely on desktop computers. During those classes, students were unable to connect and study due to no supply of electricity. These e-learning portals have a very limited selection of subjects and programs.

The study also discovered that there was a challenge in the use of e-learning because they had not been exposed to virtual teaching and learning in the past, as some of them had not been

exposed to computers. The students struggled to stay connected online, so information could not be traced or found. Computers and computer labs were insufficient. To put it another way, e-learning has some drawbacks in the teaching and learning process (Collins et al., 1997; Klein and Ware, 2003; Hameed et al., 2008; Almosa, 2002; Akkoyuklu and Soylu, 2006; Lewis, 2000; Scott et al., 1999; Marc, 2002; Dowling et al., 2003; Mayes, 2002).

RESEARCH QUESTION 2: WHAT ARE THE FACTORS INFLUENCING EMBEDDING E-LEARNING FOR STUDENTS AT THE TVET COLLEGE?

4.4.2 THEME 2: Factors influencing embedding e-learning

The findings revealed that e-learning can limit students' ability to communicate with lecturers after classes. Disruptions can occur when students attempt to connect with their lecturers online. Furthermore, the findings revealed that some students prefer to learn online because Covid-19 had an impact on their teaching and learning by requiring lessons to be presented online in order to avoid close contact. Although online learning cannot be eliminated, it can be combined with contact or face-to-face learning.

During the Covid19 pandemic, lecturers and students had to adjust to new technologies for teaching and learning. In March 2020, the World Health Organisation (WHO) and the South African government declared the corona virus to be the world's deadliest virus.   Regulations were put in place in South Africa. The colleges were forced to adapt to new technologies as the world transitioned to 4IR.According to the study, online teaching and learning save time and is cost effective. The study also revealed that more than 60% of students can be taught online. The DHET in South Africa has pleaded with the TVET colleges to conduct teaching and learning from a face-to-face mode of teaching and learning to online (Ministry of Education and Culture, 2020)

As the world moves towards technology, online learning has become more important to students and lecturers., According to Loyen, Magda, and Rikers (2008), cited in A Nwankwo (1995), colleges have adopted online learning for their students. The college must adapt to new technologies in order to provide effective teaching and learning. Despite the fact that students experienced some difficulties while learning online, online learning must continue.

Because the majority of the students are from rural areas, they believe that face-to-face teaching and learning would be preferable. This traditional mode of teaching and learning could benefit both students from rural and semi-rural areas, as well as students from low-income families.

According to Cavus and Zabadi (2014), the shift from face-to-face to online learning has significant benefits for teaching and learning in the TVET colleges. Because contact classes were limited during the pandemic, the college should have considered using e-learning for the students. Online learning was conducive for students in the college (You & Kang, 2014).

Students can spend nearly half a day on computers trying to complete their assignments and all of the tasks assigned to them.

According to the findings of the study, the time spent on planning, organising, directing, and controlling is critical for online teaching and learning in the TVET college. (Almardeni and Alrheme, 2014).

Research question 3: What strategy can be used to embed e-learning for students at the TVET college?

4.4.3 THEME 3:   Strategies to be used to implement e-learning

Students are always given instructions on how to use their computers to access online learning. According to the findings of the study, the college should advise students to use e-learning, the internet, simulated classes, and interactive videos for their online learning.

The college must consider new technologies for effective online teaching and learning. Classrooms should be conducive to online teaching and learning, as well as new technologies for the college, so that teaching and learning are easily accessible. To accommodate new technologies, the college's infrastructure must be upgraded.

Research question 1: What are the challenges facing the lecturers' perception in the implementation of e-learning at the TVET college?

4.4.1 THEME 1:   Challenges in the implementations of e-Learning

Effective teaching and learning must be improved. In the twenty-first century, the college must keep up with new technologies, such as connecting Wi-Fi and providing advanced internet connections for students to learn online. As a result of online learning, the number of online course offerings grows (Li and Akins, 2005, and Beatty and Ulasewicz, 2006)

e-Learning is more difficult in that the college has limited resources that can cater to all stakeholders, infrastructure that includes simulated classrooms, poor internet connection, and a limited supply of computers and laptops. Another issue that the college may face is the lecturers' lack of computer knowledge and skills.

Despite the fact that technology evolves year after year, lecturers must adapt to new technologies. During the 4IR, online education must emerge. Lecturers must have computer skills in order to connect for online teaching and learning.

RESEARCH QUESTION 2: WHAT ARE THE FACTORS INFLUENCING EMBEDDING E-LEARNING FOR LECTURERS AT THE TVET COLLEGE?

4.4.2 THEME 2: Factors influencing embedding e-learning

The effective use of technological tools in teaching and learning is a necessary factor for the successful implementation of an e-learning system. Students are less likely to understand during online teaching and learning if they do not have access to these tools. A lack of technological skills and knowledge can also have a significant impact. Technology advancements benefit both lecturers and students.

The study was carried out to determine the students' readiness to use online during Covid-19. During online learning, the students needed time to improve their academic performance. According to the study, more than 60% of students are prepared to learn online; only a few are not ready due to a lack of resources.

Prior to and after 2003, lecturers were not exposed to technologies, such as computer skills and access to the internet. Face-to-face instruction and learning were used. Remote teaching and learning were implemented. Lecturer development was required in order to meet the standard and keep up with new technologies.

As online learning had to continue during Covid-19, lecturers and students had to adapt to new technology.

The students believe that e-learning is the preferred mode of teaching and learning, and lecturers believe that it is beneficial and understandable. The college should have resources for teaching and learning. Some lecturers believed because of the limited resources for learning, some students would be resistant to change.

Online learning has some advantages that ensure constant and meaningful interactions between lecturers and students. Online group work can be effective. Another advantage of online learning is that it saves time and money. Many students can attend a single lesson at different locations at the same time. As the world has moved towards the 4IR, incorporating e-learning into the college curriculum will benefit both current and future technologies.

Online learning allows students to experience life and learn outside of their local community (Clark & Berge, 2005). Students are able to access, learn, and interpret their lessons at any time, from any location. Researchers have identified flexibility as part of the strength of the online learning setting (Petrides and Schrum, 2002).

RESEARCH QUESTION 3: WHAT ARE THE STRATEGIES THAT CAN LECTURERS BE USED TO EMBED ELEARNING AT THE TVET COLLEGE?

4.4.3 THEME 3: Strategies that can be used to implement e-learning

Lecturers and students must engage in an authentic relationship, addressing students' academic and emotional needs while remaining resourceful in the face of unknowns. (Henk 2018). The majority of the findings in the literature review focused on one or more computer anxieties (Brown et.al. 2006, and Muse, 2003).

Online learning has simplified teaching and learning for college lecturers. The college must continue to provide digital training and skills development to lecturers so that teaching and learning can take place in a conducive environment and lessons can be delivered remotely at the scheduled time.

Lecturers can develop social media and learning applications for students to use in the classroom and at home. When face-to-face learning is not possible, social media can be used as an alternative media in the online teaching and learning process. (Ramani, 2015).

Lecturers must be up to date on new technologies. During the Covid-19 pandemic, online learning is critical for students' learning. Because the pandemic has not been completely eradicated, higher education institutions may be disrupted at any time (Subedi et al., 2020).

Blended learning and full distance teaching are preferred. The college should consider implementing new educational formats and technologies. Fundamental pedagogical research and adequate online lecturer preparation are essential for lecturer resource support.

In the college, resources are essential. Lecturers require technology to effectively teach and learn. The readiness of lecturers and students to use technology in the college should be assessed and supported.

RESEARCH QUESTION 1: WHAT ARE THE CHALLENGES FACING THE MANAGEMENT'S PERCEPTION IN THE IMPLEMENTATION OF E-LEARNING AT TVET COLLEGE?

4.4.1 THEME 1: Challenges in the implementations of e-learning

In terms of organising, planning, directing, and controlling, the study identified individual variables and academic success for students as soon as possible. The college intends to hire a programme manager to ensure that online teaching and learning programmes are in good working order (Alrheme and Almardeni, 2014).

The study investigated the internal stakeholders' readiness for the implementation of e-learning in the college during and after the Covid-19 pandemic.

Theoretical research was based on the college's growth in digital technologies. To realise the implementation of e-learning in the TVET college, all internal stakeholders had to work very hard. According to the study, there are more courses available online, and most students are shifting to new online courses (Gregory and Salmon, 2013, and Margaryan, Bianco, and Littlejohn, 2013).

The study aimed to provide high-quality online teaching and learning both during and after the Covid-19 pandemic. Effective teaching and learning will be pursued by providing the necessary resources (Carey, 2020).

RESEARCH QUESTION 2: WHAT ARE THE FACTORS INFLUENCING EMBEDDING E-LEARNING FOR MANAGEMENT AT THE TVET COLLEGE?

The college's internal stakeholders needed to benefit from e-learning. Old methods of presentation had to be replaced by new technologies. During and after Covid-19, the college had to implement day-to-day operations of the day's activities. The savings on transportation and time management would be significant advantages of online teaching and learning.

The college's e-learning strategy must include infrastructure improvements. One of the college's campuses has constructed a studio where lessons are recorded and downloaded. The plan is to expand this infrastructure to other college campuses as soon as possible, and the implementation must be as quick as possible.

RESEARCH QUESTIONS 3: WHAT ARE THE STRATEGIES THAT CAN BE USED TO EMBED E-LEARNING AT THE TVET COLLEGE?

4.4.3   THEME 3:   Strategies that can be used to implement e-learning

The study focused on lecturers' influence on students' online learning. The resources must be available. Computers are the resources that must be used in the college for online teaching and learning (Brown et al.,2006; Muse, 2003). A genuine relationship among the college's stakeholders is critical for the successful implementation of e-learning in the TVET college. Henik (2018).

For effective teaching and learning, the college began to distribute some learning resources to students. The college should seek expert assistance. The college will need time to plan for this online, including how it will manage, control, and organise online teaching and learning.

The college must plan for the continuation of online learning following the Covid-19 pandemic. Online learning must remain as positive as it is for college students, and resources must be well-organised Fabriani et al. (2020).

5.4   CONCLUSIONS

The study looked into a phenomenon that could be regarded as factors influencing the embedding of e-learning at a TVET college in Mpumalanga province, South Africa. The internal stakeholder is very important in the implementation of e-learning at the TVET College. The conclusion was reached using the data provided by the participants in the literature review. It is hoped that the findings of this study will assist students, lecturers, and management at the TVET college to provide effective teaching and learning. The study identified several barriers that could prevent the successful implementation of e-learning in the college. It also identified personal factors that can have a negative impact on students in an online environment (Stoessel et al 2015).

The study also identified some barriers that many lecturers face when it comes to successful online teaching and learning (Conkova, 2013). The strategies for integrating e-learning into the TVET college were also highlighted. The study also highlighted some factors where e-learning has been successfully implemented in the college, indicating that the study's objectives were met. The study has determined that lecturers make changes to exploit and harness digital technology in order to achieve positive outcomes from using digital tools and resources for teaching and learning (Sorensen, 2005).

It is critical that lecturers have opportunities to learn how to use all the applications and receive initial support in using them if they are to improve their teaching methodology and increase their capabilities and confidence. New teachers must be prepared to use digital technologies and comprehend their benefits and applications. When lecturers are trained for teaching and learning, they are more likely to adapt digital technologies (Floyd, 2003 and Koehler et al. 2004, cited in Abhinandan and Anupama Nayak, 2020).

The better the lecturers understand the benefits of digital teaching and learning; the more value they see in using them (Gautama, 2020). Once the digital equipment is provided, training on how to use it for effective online teaching and learning in the college is required. Support is required for the college's e-learning implementation. Lecturers and students must be guided through the implementation process. The study raised several issues that must be addressed in order to successfully implement e-learning in the selected TVET college. It can be concluded that infrastructure is generally insufficient to support successful e-learning implementation. Some TVET college campuses in Mpumalanga do not have enough computer laboratories. According to the study, students have access to a variety of communication tools. During and after Covid-19, communication was done via WhatsApp, email, television, radio, and SMSs.

5.5   RECOMMENDATIONS

The following recommendations emerged from the findings of the study.

5.5.1   TVET college students

- The TVET college must provide learning resources for effective online teaching and learning. Internet connectivity and data must be of high quality.
- The TVET college must organise self-motivation sessions for its students.
- The college must provide computer skills training. Students must be up to date on the latest technology.
- In the event of load shedding, the college should have an alternative internet connection.
- With these technologies, lecturers must identify students who are having difficulty with online learning and technology use in the TVET college.
- College lecturers must make time for students to learn online. Students must be encouraged and given adequate time to conduct online research and assignments.

5.5.2   TVET college lecturers

- TVET college lecturers must record their lessons so that students can access them during and after the classes.

- College lecturers should think about using information technology (IT) for online learning so that feedback is immediate and easy to access.

- Lecturers must be trained and understand the benefits and applications of digital technologies for online teaching and learning.

- Devices must be provided to lecturers and students in order for the TVET college to improve in online learning.

- To improve examination results during and after Covid-19, the TVET college must choose online examination with adequate resources.

5.5.3   TVET college management and leadership

- The college must budget for infrastructure maintenance and upgrades in order to provide effective online teaching and learning.

- The TVET college must provide training to support the college's appropriate and effective use of e-learning.

- Internet connectivity for all campuses of the chosen TVET college must be established as soon as possible in order to facilitate effective online teaching and learning in the college.

- For effective online teaching and learning, as well as smooth administration of the college's day-to-day activities, the TVET college must a full-time e-learning manager to run it daily.

- The college must provide students with resources such as computers and laptop, as well as data.

- In order to provide skills to internal stakeholders, the college must maintain positive relationships with e- learnng experts.

- The college should think about using blended learning.

5.6   DELIMITATIONS OF THE STUDY

Seven students from Engineering and Business Studies, Report 191(Nated), and National Certificate (Vocational) participated in the study. Four lecturers from the NC(V) programme and Engineering Studies, three campus managers, and three central office senior managers from a TVET college in Mpumalanga Province also took part in the study.

Other campuses were excluded because there were still restrictions on Covid-19 in the country. Online learning was still being implemented. Only the selected subjects from the college's various campuses were presented online. To compare and evaluate their views and opinions on the implementation of e-learning in the college, the sample of the study focused on experienced and inexperienced participants.

5.7   LIMITATIONS OF THE STUDY

Only a few people at the TVET college had access to the qualitative research study, as well as specific documents and data. The sample for the study was limited to college students, lecturers, campus managers, and senior managers (Simon and Jim Goes, 2013).

The researcher attempted to capture the perspectives of the participants, and the methods allowed for an understanding of the why, what, and how of the phenomenon. The researcher acknowledged the limitations of describing the lives of the participants in this study.

The study may have limitations due to subjectivity and possible bias of data obtained from the college participants. Another limitation was accessibility, as some of the participants were not easily accessible for data collection, resulting in a situation that caused a delay in data collection.

Time constraints were also an issue in data collection as the participants were unable to schedule a suitable time for data collection (Simon and Jim Goes, (2013), cited in Delva, Kirby, Knapper, and Birtwhistle, 2002).

The data was gathered from the central office and the three campuses by senior management, campus managers, lecturers, and students before the study was carried out.

5.8   FUTURE RESEARCH

E-Learning implementation and a failure to understand its importance and benefits is common among students, lecturers, campus managers and senior management in the college. Therefore, future research is needed to alleviate the challenges of e-learning implementation faced by the college's internal stakeholders.

The following aspects need to be taken care of for future research:

- Challenges facing students in the college.
- Why students refuse to use e-learning in the college.
- e-Learning as an option for teaching and learning in the college

- How students and lecturers perceive e-learning during and after the Covid-19 pandemic in the TVET college.
- Computer literacy and e-learning adoption.
- How will this e-learning be useful to the final examination?
- Expansion of e-learning for future use in the college.

To gain a better understanding of e-learning technologies, a study that includes all internal stakeholders in the college is required, because the research findings were based on a small number of the participants. The study recommends that mixed methods be used in future similar studies.

6.   CONCLUSION

The study's primary goals were to investigate the internal stakeholders' perceptions of e-learning in the college. These goals were met in chapter four by implementing an improved framework based on participant feedback. e-Learning is a fascinating new way of learning almost anything. It has had a positive impact on the lives of students, lecturers, and the TVET college management. The increased use of technology has improved the quality of education in the TVET college.

Technology relates to maximising, utilising, and sustaining the use of e-learning in the TVET college. The college is still facing some challenges, such as limited resources. Nonetheless, many assumptions have been made regarding the implementation of e-learning. The study focused on improving e-learning success and overcoming pedagogical challenges during and after the Covid-19 pandemic in the selected TVET college. The study aims to overcome future barriers to e-learning. Although the study found that some stakeholders prefer blended learning for teaching and learning in the TVET college, the findings confirm that the TVET college prefers online learning.

Even though this study has raised a number of issues that need to be addressed in order to successfully implement e-learning in the college, e-learning has changed the process of knowledge acquisition and dissemination in the college. Students, lecturers, and management have been able to share information through a variety of e-learning platforms. The findings indicate that training for all internal stakeholders in the college is critical for the implementation of e-learning in the TVET college; thus, online teaching and learning has been beneficial in recent years. Using e-learning saves money and time for both the college and its internal stakeholders. Instant feedback is possible. As we have entered the 4IR era, the use of

technology has increased globally, and its use also encourages students' critical thinking and participation in online learning.

The concepts of embedding as conceived in this dissertation necessitate a much greater appreciation and understanding of the value of complex and creative solutions than has been demonstrated in the college. Recognising the importance of the task ahead, this dissertation has proposed some theoretical statements to supplement tools, methods, and knowledge about the change with e-learning implementation. The study's findings in embedding e-learning implementation are expected to encourage progress in the TVET college.

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APPENDIX J: INTERVIEW QUESTIONS (MANAGEMENT)

QUESTIONS

1.What is the success of e-learning plan in achieving the objectives of the curricular?

2.How do you assess the relationship between students' readiness for e-learning and their academic performance?

3. Is online education, that is, e-teaching, e-learning and e-examination, effective in the college?

4. Did the digital age force the traditional libraries, newspapers or even face-to-face learning to be changed to online version?

5.Do you believe that e-learning should be expanded, particularly in the college?

6. Do you consider e-learning to be the best option for education at Ehlanzeni TVET college?

7. Will you continue to use e-learning in the college after Covid 19?

8. How does e-learning benefit your college as management?

9. What are key challenges preventing an e-learning success?

10. What are your plans for the college if the Corona pandemic continues after it has affected all institutions around the world?

APPENDIX K: INTERVIEW QUESTIONS (LECTURERS)

QUESTIONS

1.Can the development of information technology in education lead to the replacement of lecturers by robots?

2. How do new information technologies change the education process at college?

3. How do you measure the relationship between students' readiness for e-learning and their academic performance?

4. In these pandemic conditions, do you recommend distance learning digital platforms (E-learning) or the resumption of courses in classrooms in the college?

5. In your opinion is e-learning better than in-person education?

6. What effect will this change have on student understanding?

What do your students think? Do they prefer e-learning?

7. Due to Covid 19, we get used to do teaching via e-learning (distance/online learning) on radios, TV etc.? do you prefer to continue with e-Learning (online learning)?

8. Is there a difference in computer literacy and e-learning adaptation between lectures before and after 2003?

9. What kind of training would you like / do you require to improve your digital competencies in response to online learning / e-learning?

10. How do you keep students motivated in an online class?

11. Can online learning provide the same benefits as face-to-face lecturers? And, if so, what are the advantages?

12. What kind of problems do you meet during lesson?

13. How can we improve online education?

14. What are the best approach to conduct final exams for college students during Covid 19?

15. After a long of online learning what kind of learning would you recommend fully distant learning or blended learning?

16. Do students in classroom have a better learning experience than online learning?

17. Do you believe that e-learning is the best educational option today?

APPENDIX L: INTERVIEW QUESTIONS (STUDENTS)

QUESTIONS

1. As a student, what are your thoughts on e-learning lessons during the pandemic?

2. What kind of problems do you encounter during online learning?

3. Do you believe that e-learning is the best option for teaching and learning in the college?

4. Do you support the continuation of online learning in the college?

5. Do you believe that e-learning is superior to traditional classroom instruction?

6. Given a chance, what change would you like to see in the college?

7. How helpful has your college offered you the resources to learn from home?

8. How difficult or easy is it to use e-learning technology, that is computer, tablet, video calls, learning applications?

9. How much time do you spend each day on average on online learning?

10. Why do most students refuse e-learning despite using smartphones more than anyone else?

11. How or what advice would you give a new student about the programme?

12. Do you believe that e-learning will continue to be useful in the future?

DHET 004: APPENDIX 5: APPLICATION FORM FOR STUDENTS TO CONDUCT RESEARCH IN PUBLIC COLLEGES

6. DECLARATION BY THE APPLICANT

I undertake to use the information that I acquire through my research, in a balanced and a responsible manner. I furthermore take note of, and agree to adhere to the following conditions:

a) I will schedule my research activities in consultation with the said College/s and participants in order not to interrupt the programme of the said College/s.

b) I agree that involvement by participants in my research study is voluntary, and that participants have a right to decline to participate in my research study.

c) I will obtain signed consent forms from participants prior to any engagement with them.

d) I will obtain written parental consent of students under 18 years of age, if they are expected to participate in my research.

e) I will inform participants about the use of recording devices such as tape-recorders and cameras, and participants will be free to reject them if they wish.

f) I will honour the right of participants to privacy, anonymity, confidentiality and respect for human dignity at all times. Participants will not be identifiable in any way from the results of my research, unless written consent is obtained otherwise.

g) I will not include the names of the said College/s or research participants in my research report, without the written consent of each of the said individuals and/or College/s.

h) I will send the draft research report to research participants before finalisation, in order to validate the accuracy of the information in the report.

i) I will not use the resources of the said College/s at which I am conducting research (such as stationery, photocopies, faxes, and telephones), for my research study;

j) Should I require data for this study, I will first request data directly from the Department of Higher Education and Training. I will request data from the College/s only if the DHET does not have the required data.

k) I will include a disclaimer in any report, publication or presentation arising from my research, that the findings and recommendations of the study do not represent the views of the said College/s or the Department of Higher Education and Training.

l) I will provide a summary of my research report to the Head of the College/s in which I undertook my research, for information purposes.

I declare that all statements made in this application are true and accurate. I accept the conditions associated with the granting of approval to conduct research and undertake to abide by them.
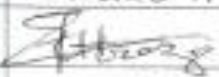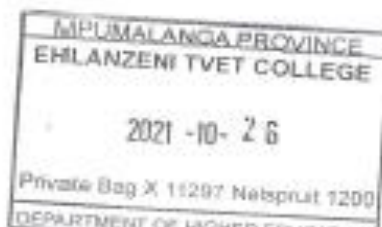
SIGNATURE	
DATE	20 OCTOBER 2021

6. DECLARATION BY THE APPLICANT
FOR OFFICIAL USE

DECISION BY HEAD OF COLLEGE

Please tick relevant decision and provide conditions/reasons where applicable		
Decision		Please tick relevant option below
1	Application approved	X
2	Application approved subject to certain conditions. *Specify conditions below*	
3	Application not approved. *Provide reasons for non-approval below*	
NAME OF COLLEGE	Ehlanzeni TVET College	
NAME AND SURNAME OF HEAD OF COLLEGE	Faniekie Henry Judas SIBOZA	
SIGNATURE		
DATE	26 October 2021	

MPUMALANGA PROVINCE
EHLANZENI TVET COLLEGE

2021 -10- 2 6

Private Bag X 11297 Nelspruit 1200
DEPARTMENT OF HIGHER EDUCATION

Request for permission to conduct research at Ehlanzeni TVET College. (Acting CEO)

Title: INTERNAL STAKEHOLDERS PERCEPTION TOWARDS EMBEDDING E-

LEARNING AT EHLANZENI TVET COLLEGE IN MPUMALANGA PROVINCE

Date: 18 October 2021

To: Mr. FHJ Siboza

Campus: Ehlanzeni TVET College, Central Office

Tel: 013 752 7105, Cell: 079 529 4852

Email address:fhjsiboza@ehlanzenicollege.co.za

Dear Mr FHJ Siboza

I, Johannes Elvis Zwanangaye am doing research with under supervision of Prof PR Machaisa in the Department of Educational leadership and Management towards a Master's Degree (Med Education Management) at the University of South Africa. We are inviting you to participate in a study entitled INTERNAL STAKEHOLDERS PERCEPTION TOWARDS EMBEDDING E-LEARNING AT EHLANZENI TVET COLLEGE IN MPUMALANGA PROVINCE.

The aim of the study is to explore the internal stakeholders' perceptions towards online learning at Ehlanzeni TVET College in Mpumalanga Province.

Your College has been selected because of the researcher's personal connection which allows him to more easily become one of the subjects of research, also increasing researcher's own abilities to conduct reflexive analysis of the school and researcher himself. Another thing is that, a researcher is an employee of Ehlanzeni TVET College and he have identifiable connection with the college which will make him be better able to embrace and understand the role of the participant observer in ethnographic data collection.

The study will entail Qualitative Research method which is primarily exploratory research and involve using interviews and observations as data collection methods. For the interview the researcher will conduct in-depth interviews with employees in your office to learn about their experiences and perspectives in greater detail and for observations the researcher will take field notes with observations and reflect on his own experiences of the school culture.

Objectives and benefits are to explore internal stakeholders' perception regarding online learning, to explore factors influencing embedding e-learning and to explore the

strategies that can be used to embed e-learning at TVET College in Mpumalanga Province. Research will help us to find solutions to our problems arising in our College and underpin professional learning of knowledge, skills and understanding which will connect us with sources of information and networks of professional support.

Potential risks are Covid 19 and Covid 19 regulations will be discussed and adhered to.

There will be no reimbursement or any incentives for participation in the research.

Feedback procedure will entail UNISA and College, UNISA will give the college feedback and participants will get feedback access from their College.

Yours sincerely

Signature

JOHHANNES ELVIS ZWANANGAYE MAHLANGU

Lecturer (Student No: 40671771)

Request for permission to conduct research at Ehlanzeni TVET College (Campus Manager)

Title: INTERNAL STAKEHOLDERS PERCEPTION TOWARDS EMBEDDING E-

LEARNING AT EHLANZENI TVET COLLEGE IN MPUMALANGA PROVINCE

Date: 18 October 2021

To: Mrs Khoza DN

Campus: Barberton Campus

Tel: 013 712 6640, Cell 082 670 0303

Email address:dnkhoza@ehlanzenicollege.co.za

Dear Mrs. DN Khoza

I, Johannes Elvis Zwanangaye Mahlangu am doing research with under supervision of Prof PR Machaisa in the Department of Educational leadership and Management towards a Master's Degree (Med Education Management) at the University of South Africa. We are inviting you to participate in a study entitled INTERNAL STAKEHOLDERS PERCEPTION TOWARDS EMBEDDING E-LEARNING AT EHLANZENI TVET COLLEGE IN MPUMALANGA PROVINCE.

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Yours sincerely

Signature

JOHHANNES ELVIS ZWANANGAYE MAHLANGU

Lecturer (Student No: 40671771)

Request for permission to conduct research at Ehlanzeni TVET College (Campus Manager).

Title: INTERNAL STAKEHOLDERS PERCEPTION TOWARDS EMBEDDING E-LEARNING AT EHLANZENI TVET COLLEGE IN MPUMALANGA PROVINCE

Date: 18 October 2021

To: Ms. Dibakwane J L

Campus: Mapulaneng Campus

Tel: 013 591, Cell: 067 415 5858

Email address:jldibakwane@ehlanzenicollege.co.za

Dear Ms J L Dibakwane

I, Johannes Elvis Zwanangaye am doing research with under supervision of Prof PR Machaisa in the Department of Educational leadership and Management towards a Master's Degree (Med Education Management) at the University of South Africa. We are inviting you to participate in a study entitled INTERNAL STAKEHOLDERS PERCEPTION TOWARDS EMBEDDING E-LEARNING AT EHLANZENI TVET COLLEGE IN MPUMALANGA PROVINCE.

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Yours sincerely

Signature

JOHHANNES ELVIS ZWANANGAYE MAHLANGU

Lecturer (Student No: 40671771)

Request for permission to conduct research at Ehlanzeni TVET College (Acting Campus Manager)

Title: INTERNAL STAKEHOLDERS PERCEPTION TOWARDS EMBEDDING E-

LEARNING AT EHLANZENI TVET COLLEGE IN MPUMALANGA PROVINCE

Date: 18 October 2021

To: Mr. SS Khumalo

Campus: Mlumati Campus

Tel: 013 591 0881Cell: 082 669 9336

Email address:sskhumalo@ehlanzenicollege.co.za

Dear Mr. SS Khumalo

I, Johannes Elvis Zwanangaye Mahlangu am doing research with under supervision of Prof PR Machaisa in the Department of Educational leadership and Management towards a Master's Degree (Med Education Management) at the University of South Africa. We are inviting you to participate in a study entitled INTERNAL STAKEHOLDERS PERCEPTION TOWARDS EMBEDDING E-LEARNING AT EHLANZENI TVET COLLEGE IN MPUMALANGA PROVINCE.

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Yours sincerely

Signature

JOHHANNES ELVIS ZWANANGAYE MAHLANGU

Lecturer (Student No: 40671771)

Request for permission to conduct research at Ehlanzeni TVET College (Acting Campus Manager)

Title: INTERNAL STAKEHOLDERS PERCEPTION TOWARDS EMBEDDING E-

LEARNING AT EHLANZENI TVET COLLEGE IN MPUMALANGA PROVINCE

Date: 18 October 2021

To: Mr. WS Sibiya

Campus: Nelspruit Campus

Tel: 013 741 3016, Cell: 064 417 1127

Email address:wssibiya@ehlanzenicollege.co.za

Dear Mr. WS Sibiya

I, Johannes Elvis Zwanangaye Mahlangu am doing research with under supervision of Prof PR Machaisa in the Department of Educational leadership and Management towards a Master's Degree (Med Education Management) at the University of South Africa. We are inviting you to participate in a study entitled INTERNAL STAKEHOLDERS PERCEPTION TOWARDS EMBEDDING E-LEARNING AT EHLANZENI TVET COLLEGE IN MPUMALANGA PROVINCE.

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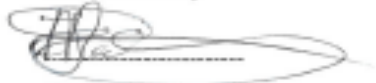
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Yours sincerely

Signature

JOHHANNES ELVIS ZWANANGAYE MAHLANGU

Lecturer (Student No: 40671771)

UNISA | university of south africa

CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the <insert specific data collection method>.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname.. (please print)

Participant Signature..Date.....................

Researcher's Name & Surname JOHANNES ELVIS ZWANANGAYE MAHLANGU

Researcher's signature..Date 20 OCTOBER 2021

UNISA | university of south africa

UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2022/04/14

Dear Mr JZ MAHLANGU

Decision: Ethics Approval from
2022/04/13 to 2025/04/13

Ref: **2022/04/13/40671771/15/AM**
Name: Mr JZ MAHLANGU
Student No.: 40671771

Researcher(s): Name: Mr JZ MAHLANGU
E-mail address: 40671771@mylife.unisa.ac.za
Telephone: 083 505 4000

Supervisor(s): Name: Prof PR MACHAISA
E-mail address: machapr@unisa.ac.za
Telephone: +27124294560

Title of research:

Internal stakeholders perception towards embedding e-learning at Ehlanzeni technical vocational education and training college in Mpumalanga province

---

Qualification: MEd Education Management

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2022/04/13 to 2025/04/13.

The **medium risk** application was reviewed by the Ethics Review Committee on 2022/04/13 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher will ensure that the research project adheres to the relevant guidelines set out in the Unisa Covid-19 position statement on research ethics attached.

2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.

Open Rubric

3. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.

4. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.

5. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.

6. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.

7. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.

8. No field work activities may continue after the expiry date **2025/04/13**. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

The reference number **2022/04/13/40671771/15/AM** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

Kind regards,

Prof AT Motlhabane
CHAIRPERSON: CEDU RERC
motlhat@unisa.ac.za

Prof Mpine Makoe
ACTING EXECUTIVE DEAN
qakisme@unisa.ac.za

Approved - decision template – updated 16 Feb 2017

ProMol Language Institute

LANGUAGE EDITING AND PROOFREADING CERTIFICATE

This is to certify that a professionally-qualified language editor has thoroughly reviewed this Master of Education (MEd) degree document for proper English language, grammar, punctuation, spelling, overall style, and readability. Microsoft Word's *Track Changes* feature was used.

Dissertation Title:

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Author:

JOHANNES ELVIS ZWANANGAYE MAHLANGU
(University of South Africa)

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