

**EXPLORING THE ROLE OF TECHNICAL VOCATIONAL  
EDUCATION AND TRAINING COLLEGE MANAGEMENT IN  
UTILISING LEARNING MANAGEMENT SYSTEMS**

by

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## **ABSTRACT**

This study aimed to explore the role of Technical Vocational Education and Training (TVET) college management in utilising Learning Management Systems (LMSs). A sample of 6 TVET managers was conveniently selected from a TVET college in a rural area in South Africa using a qualitative approach. Data were collected through semi-structured interviews and analysed using thematic analysis. For many years South African TVET Colleges have not been using Learning Management Systems to support teaching and learning. However, recently these institutions have introduced LMSs; hence, it became necessary to unpack the role of TVET College Management in utilising these systems. The TVET college management needs to fulfil their roles since it is part of their responsibilities to ensure that LMSs at these institutions are used efficiently to enhance TVET college results. Lecturers and students must be supported by management to ensure the efficient usage of the LMS. This study was underpinned by the Technology Acceptance Theory which was appropriate to evaluate the level of technology acceptance by the lecturing staff and college management. I analysed policies that have an impact in the way in which TVET colleges should function in line with the introduction of Information Communication Technologies (ICTs), in addition to conducting a comparative study of LMS usage in America, Europe and Africa. A qualitative research approach was adopted to generate data from a selected sample of 6 participants from the campus management team. The findings revealed that management did not have clearly defined role-functions to support LMS at campuses, and that there were numerous challenges confronting the application of LMSs, especially that of not being fully utilised. Emanating from the findings and conclusions of this study, it is recommended that intensive support be provided for lecturers by college management including ongoing on-the-job training and availability of relevant resources to circumvent the challenges. College management needs to implement creative strategies to ensure that LMS is thoroughly and correctly implemented to yield enhanced academic results.

**Keywords:** college management, Learning Management Systems, Technical and Vocational Education and Training, technological innovation, workplace experience

## **DECLARATION**

I Sibongile Mirriam Mthabela, student number 2006003640, declare that this study titled, *EXPLORING THE ROLE OF TECHNICAL VOCATIONAL EDUCATION AND TRAINING COLLEGE MANAGEMENT IN UTILISING LEARNING MANAGEMENT SYSTEMS* which was submitted to the Faculty of Education at the University of the Free State, is my own work and has never been submitted by me at another university or faculty. Also, all sources consulted and cited have been duly acknowledged in-text and in the reference list. This dissertation is submitted in fulfilment for the requirements of the MEd Degree.



S.M. MTHABELA (Ms)

**10/01/2024**

## **DEDICATION**

This dissertation is dedicated to my mom and dad (Vangile Mthabela & Fanyana Mthabela), and my mother-in-law Mamusa Mosia for their unconditional support and taking care of my children while I pursued this challenging academic journey. To Hadio Motaung, thank you for your support - you inspired me to realise my dream.

Most importantly, my children Letlotlo and Lehakoe Mosia for always understanding when mommy said she was busy even during your play time with mommy.

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- ✓ Maluti TVET College Campus Managers who agreed to participate in this research.
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## ABBREVIATIONS/ACRONYMS

|             |   |
|-------------|---|
| APM         | Association for Project Management                          |
| CPA         | Critical Policy Analysis                                    |
| DHET        | Department of Higher Education and Training                 |
| E- LEARNING | Electronic Learning   |
| FIR         | Fourth Industrial Revolution                                |
| HEI         | Higher Education Institution                                |
| ICT         | Information Communication Technology                        |
| LMS         | Learning Management System                                  |
| OCT         | Organisational Change Theory                                |
| PQLTVET     | Professional Qualifications for Lecturers in the TVET       |
| TVET        | Technical and Vocational Education and Training             |
| TAM         | Technology Acceptance Model                                 |
| TRA         | Theory of Reasoned Action                                   |
| UTAUT       | Unified Theory of Acceptance and Utilisation of Technology  |
| UNESCO      | United Nations Education, Science and Cultural Organisation |
| USA         | United States of America                                    |
| SA          | South Africa  |

# CHAPTER ONE

## OVERVIEW OF THE STUDY

### 1.1 INTRODUCTION AND BACKGROUND

Using technologies to support tertiary education is a common phenomenon, this is due to a lot of benefits, rapid usage, and new opportunities that technologies offer for students. Higher education institutions worldwide have embraced online learning to facilitate effective learning amongst students (Munyaradzi, Mildred & Addae, 2022). These technologies facilitate smooth and flexible access to important information via Information Communication Technologies (ICT) platforms.

The Department of Higher Education and Training (DHET, 2013) recognised the importance of ICT for academic institutions, and thus recommended the promotion and practice of effective and efficient leadership, especially among campus managers of TVET colleges who must be capacitated and encouraged to provide quality education and training that is so necessary to meet the scarce skills gap in South Africa (DHET, 2013, p.19). It is imperative that TVET colleges are upgraded in terms of quality education and technology advancements by engaging management, lecturers, and students in acquiring the relevant skills and the knowledge to attain quality education. This includes improving the use of technology by training students and lecturers in the effective utilisation of IT equipment, encouraging online learning, and enhancing the quality of overall education provision at TVET colleges to meet the demands of the country's economy and for the Fourth Industrial Revolution (FIR) (DHET, 2013, p.12). Having visionary and skilled college managers is crucial to enhance, not only student-performance but also lecturer- performance. This involves critical thinking in making decisions and designing and approving the usage of systems such as Learning Management Systems (LMSs). Aina & Ogegbo (2022) states that TVET colleges need effective management for growth, especially in the technologically fast paced world we are living in. The management need to be effective and efficient educational leaders that promote results-oriented teaching methods while including innovative IT platforms to enhance teaching-learning in colleges.

The core business of TVET colleges is to provide quality education through creative teaching-learning processes via theory and practical skills; therefore, management must support activities that elicit high-performance standards at institutions, especially in the implementation of LMSs. In other words, the fundamental leadership role of college management is to thoroughly enhance the standards of student learning and creative processes of education and training to achieve optimum institutional performance. This includes astute leadership in promoting modern forms of assessment, relevant delivery of curriculum knowledge and skills, effective monitoring and evaluating, providing extensive support, availing necessary resources, and devising strategies to ensure that students surpass global benchmarks.

Internationally, internet users are also evolving at a fast pace, as a result, the new generation of students approach play, work and learning, in innovative and creative ways. Consequently, it is crucial for TVET college management to keep abreast of these changes by creating a transitional institutional environment to be at the cutting edge of online developments and globalisation. Currently, only a limited number of TVET colleges use e-learning platforms. Despairingly, TVET colleges are still viewed as underperforming (DoE, 2001) largely due to the lack of effectively managing information systems, coupled with the slow progress in the implementation of e- learning.

According to Adebunmi & Ayodele (2022) the usage of Information Communication Technology (ICT) resources play a significant role in enhancing the effectiveness of TVET education as ample and valid evidence shows that ICT increases motivation and stimulates progress amongst students. E-learning, which is often referred to as technology-based-learning, increases students' enthusiasm for lifelong learning via engaging in various ICT platforms. Conversely, TVET college lecturers who are not technological savvy, jeopardise the potential of TVET college education to thrive in national and international modern knowledge economies. Hence, it is imperative for the youth of South Africa to exploit opportunities for employment by grasping ICT knowledge and skills on offer at TVET colleges and other tertiary institutions. However, this requires commitment and visionary leadership from all role-players, especially those involved in the management and control of TVET colleges.

Since there is limited research, past and current, on the effective utilisation of Learning

Management Systems (LMSs) at South African TVET colleges, this study is crucial to add new knowledge to assist all role-players of TVET colleges in advancing the performance of students (Dlamini, 2018; Mbanga & Mthembu, 2020). According to the TVET Colleges Teaching and Learning Plan (2021), there is an urgency to be proactive and innovative in preparation for the FIR to ensure that new skills and knowledge are integrated into all learning programmes. This plan highlights that the TVET sector should prioritise ICT by aligning academic programmes and curricular to the needs of FIR.

## **1.2 PROBLEM STATEMENT**

The problem at TVETs was the lack of full, effective, and the supportive implementation of LMS at TVET colleges. For many years the face-to-face classroom practice have been standard in higher education for teaching and learning. Today, in most universities, lecturers are engaging in innovative teaching and learning styles through LMSs to achieve better academic results and efficiency in the delivery of curricula. However, in TVET colleges, the introduction of new technologies is recent because TVET colleges as they are not yet prepared for the FIR. According to Munyaradzi, Mildred & Addae 2022 TVET colleges lack of adequate teaching and learning technologies such as LMSs. These institutions also lack in training their staff to use learning technologies for teaching and learning, poor connectivity is also a challenge as most TVET colleges lack ICT infrastructure and computing equipment. The FIR, Covid-19 restrictions, stiff competition from rival institutions, and the quest for high academic performance from TVETs, demand that online and other IT platforms become more visible and effective to equip students for the global economy. However, the quality of TVET management needs to be explored to unearth shortcomings that may impede initiating the successful utilisation of ITC platforms. TVET colleges experience a lack of support from management on the integration of technology into teaching and learning and poor policy guidelines and framework for virtual learning for implementing virtual learning (Adebunmi & Ayodele 2022). Additionally, more incisive research is needed about how LMS can enhance student engagement at TVET colleges. Thus, the study's' aim was to explore the role of Technical Vocational Education and Training (TVET) college management regarding the utilisation of Learning Management Systems (LMSs).

### **1.3 THEORETICAL FRAMEWORK OF THE STUDY**

This study adopts the Technology Acceptance Model (TAM) conceptualised by Davis (1989) who analysed and developed the acceptance and understanding of technology at institutions. The TAM and the Unified Theory of Acceptance and Utilisation of Technology [UTAUT] (Venkatesh et al, 2003) which have been used widely, proved to be successful in the academic field; therefore, this theory (TAM) is relevant to this study. According to TAM, technology usage is dependent on the behavioural expectations of the individual because behaviour influences a person's viewpoint which will ultimately influence the usefulness of the technology.

Also, this study adopts the Organisational Change Theory (OCT) established by Rogers (2003) who indicates how organisational success and innovation rely on structural factors such as external characteristics in the environment and personal characteristics. Theorists Pettigrew, Ferlie and Mckee (1992) explains that the level at which the public sector can be inclined to change depends on policies, management support, inter-organisational networking, and a supportive organisational culture (Batras et al, 2014). This theory (OCT) is relevant to the study as it serves as a blueprint in preparing employees and management for the impending change in the TVET sector. Lecturers and management's ability to adapt to changes (e.g. the migration from face-to-face teaching) has a direct impact on the development of the institution. Now, more than ever, Higher Education Institutions (HEIs) find themselves in a new era - an environment where there is much transition to the use of technology. We saw during the Covid-19 pandemic the acceleration in remote learning which demanded change management processes as a priority to be practised at TVET colleges because it directly impacts on institutional goals, planning, and decision- making (Walker, 2004).

### **1.4 AIM AND OBJECTIVES**

#### **1.4.1 Aim**

This study aims to explore the role of TVET college management regarding the utilisation of Learning Management Systems (LMSs).

## **1.4.2 Research Objectives**

- 1.4.2.1 To determine lessons that can be learnt from previous and current studies regarding the leadership role played by college management in the utilisation of LMSs in TVET colleges;
- 1.4.2.2 To examine the advantages of the utilisation of Learning Management Systems in TVET colleges;
- 1.4.2.3 To analyse participants' views on the role played by college management in the utilisation of LMSs at a TVET College; and
- 1.4.2.4 To suggest recommendations regarding improvements in the leadership functions of college management in the utilisation of LMSs at TVET colleges.

## **1.5 RESEARCH QUESTIONS**

### **1.5.1 Primary Research Question**

- 1.5.1.1 What is the role of TVET College management in the utilisation of LMS?

### **1.5.2 Secondary Research Questions**

- 1.5.2.1 What lessons can be learnt from previous studies regarding the leadership role played by college management in the utilisation of LMSs at TVET colleges?
- 1.5.2.2 What are the advantages of the utilisation of LMS in TVET Colleges?
- 1.5.2.3 What are participants' views on the role played by college management in the utilisation of the LMSs at a TVET college?
- 1.5.2.4 What recommendations could be suggested regarding the leadership role played by college management in the utilisation of LMSs at TVET colleges?

## **1.6 RESEARCH DESIGN AND METHODOLOGY: AN OVERVIEW**

The study's aim is to explore The Leadership Role of TVET college management concerning the effective utilisation of LMS e-learning programmes by adopting a qualitative research approach. The primary goal of qualitative analysis is to collect and dissect collected information to emerge with meaningful results. McMillan and Schumacher (2010) stated that, the qualitative research approach should explore a bounded structure or a case over time.

According to Mack, Woodsong, Macqueen, Guest and Namely (2005, p.5), this approach is relevant when explaining a specific issue from the perspective of the individual participant. According to Creswell (2009, p.193), the qualitative approach is a method researchers investigate apply to comprehend the significance that individuals or organisations ascribe to a social issue. In this research.

a multi-case study approach is appropriate because it investigated incisively how TVET students are exposed to e-learning. The researcher's decision to apply the qualitative approach is based on the perception that TVET institutions are migrating toward e-learning platforms after the experiences of the national shutdown due to the Corona Virus pandemic, in addition to restructuring the traditional form of teaching-learning to meet FIR and best practice standards. Further, the qualitative research approach is well suited because it allows the researcher to acquire rich descriptions in the form of words through contact with TVET college management and lecturers in their natural environment (Johnson & Christenson, 2009). In addition, the qualitative approach accommodates the constructivist paradigm (Flick, 2009).

Semi-structured interviews are used in this research to explore participants' thoughts, feelings, and beliefs about the topic under study. This promotes the collection and probing for rich data on how TVET college management can improve the usage of LMS to enhance students' performance (Padgett, 2009).

## **1.7 DATA COLLECTION**

As a data generation tool, semi-structured interviews with open-ended questions are utilised. According to Creswell (2014), we use open-ended questions to ensure that participants freely express their opinions and experiences without being limited or intimidated.

### **1.7.1 Sample Selection**

Purposeful stratified sampling is employed for data gathering to ensure that lecturers from different programmes are represented. The study interviewed a total of six ( $N=6$ ) participants; one participant from each campus (excluding the skills campus) of the Maluti TVET College. The selected participants included 6 campus managers (Table 1.1)

**Table 1.1:** Maluti TVET College campuses and number of managers

| <b>Maluti TVET College Campus</b> | <b>No. of Campus Managers</b> |
|-----------------------------------|-------------------------------|
| Campus 1                          | 1                             |
| Campus 2                          | 1                             |
| Campus 3                          | 1                             |
| Campus 4                          | 1                             |
| Campus 5                          | 1                             |
| Campus 6                          | 1                             |
| <b>Total</b>                      | <b>6</b>                      |

### **1.7.2 Data Analysis and Interpretation**

To analyse the data collected from various sources, the researcher applied the deductive method for data processing and evaluation. According to Creswell (2013), the collected information must be coded, then categorised into themes and sub-themes. Since data is collected in a comprehensive manner, transcribing and categorising were based on their relevance to the research topic at hand, which includes highlighting key points relating to LMS e-learning such as infrastructure, application, management involvement, assessment, and challenges in TVET education.

### **1.8 SIGNIFICANCE OF THE STUDY**

This study is globally significant because technological advancement is swift and ever-evolving, particularly at HEIs; therefore, TVET colleges need to keep abreast of the competition in terms of preparing academics and TVET college management for the 'digital revolution'. They need support to ensure that e-learning is incorporated into teaching and learning at their respective institutions, and that LMSs are used effectively to enhance academic results. According to the DHET Report (RSA, 2009), the roles and responsibilities of campus managers include "respond[ing] to internal and external opportunities" to promote

and improve the image of the campus. Hence, it is critical that campus management ensures the effective utilisation of e-learning systems to improve student learning.

Campus managers need to establish and maintain effective programmes and administration systems in the campus. Designing relevant, creative, and interesting programmes advantages TVET colleges to attract many young adults by preparing them for the real-life possibilities of a career. E-learning has the potential to change and improve traditional teaching as it opens new pathways into teaching-learning to improve new skill acquisition for people to attain success in the world of employment. Its development is important to the SA Government that aims for an increase in accessing to education and training to contribute to the national economy via graduates entering the labour market. Moreover, companies employ techno-savvy students who create new business opportunities that foster competitiveness through continuously improving productivity via digital platforms. This study contributes to best practice by improving the effectiveness of programmes at TVET institutions (Simiyu, 2005).

Additionally, e-learning creates new opportunities for suppliers of teaching and learning materials and equipment. Academic institutions may approach companies to supply and install IT equipment in different TVET college departments. It can also lead to the re-orientation of Government policy towards encouraging the spread of e-learning by including guidelines for learning IT skills. Consequently, TVET institutions should provide programmes that are relevant to the Province, Government, and other institutions regarding implementing e-learning. This study should encourage other institutions to unearth innovative strategies of surmounting challenges that they will encounter as they migrate to e-learning platforms. Lastly, TVET college students will have easier access to academic information as TVET online portals will be uploaded with guides and materials that promote better decision-making of choosing appropriate modules for study concerning a specific career.

## **1.9 ETHICAL CONSIDERATIONS**

Ethical considerations were observed in all data analysis processes (Burton, 2000). Firstly, the researcher applied to the University of the Free State (UFS) for an Ethical Clearance Certificate to conduct research which was obtained prior to the commencement of this research. Prior to conducting the research, I requested permission from the University of

Free State to conduct the research through its Ethics Committee which administers the University's research by reviewing and approving research to be conducted. An application was done online through the RIMS web page after which the Ethics Committee approved the ethical clearance as it complies with the set guidelines and protects participants. The participants have the right to maintain privacy, guarantee their anonymity, guaranteed confidentially and avoiding harm and betrayal (Govil, 2013, p.18). The participants are made aware prior to the research of the ethical issues involved in participating in the research so that they can give Informed consent which is an important ethical factor when conducting research. Through the Informed Consent process the researcher makes the participant aware of the research study they are participating and need to be informed that it is by choice that they participate in the study.

Ethical issues included ensuring that participants' identities and information is kept confidential and private. The subjects were provided with a (voluntary) informed consent letter to read and sign confirming their willingness to take part in the study. The researcher needs to ensure that he/she maintain and honour the participant's interests and rights throughout the study. The participants were provided with all the finer details of the research process, verbally and in writing (included in the consent form they signed). This included permission to have their interviews audio-recorded and accurately transcribed. Further, by maintaining a cordial and secure atmosphere, the researcher ensured that participants were not at risk (psychologically and/or physically) in any way. All information was securely stored electronically in a file that requested a password only to be accessed by the researcher. If a participant was uncomfortable to enlist or continue with the research process, then he/she could withdraw from the research process at any stage without being disadvantaged in any way. Also, since the research project investigated a HEI site, the researcher was required to seek approval from the college head to conduct research involving staff and the use of the campus as a research site. As such, a letter requesting permission to conduct multiple interviews with academic personnel, administration, and students was sent to the TVET head.

## **1.10 LAYOUT OF CHAPTERS**

**Chapter 1:** The study's overview was presented which included the aim of the research, the objectives, research questions, research problem, the significance of the study, and an

outline of the methodology and the theoretical framework. Ethical considerations were also explained.

**Chapter 2:** Reviewed the literature of the study and the theoretical framework of the study.

**Chapter 3:** The research methodology was explained. The qualitative research approach was discussed, including the data collection process and analytical processes the study followed.

**Chapter 4:** This chapter explains the research analysis processes which led to the findings.

**Chapter 5:** Included a summary of the study. It also outlined the findings, conclusions, and recommendations. Lastly, conclusion to the study is presented.

## **1.11 SUMMARY OF THE CHAPTER**

The study's literature review is examined in this chapter and described the theoretical framework which was aligned to the Technology Acceptance Model (TAM) which underpins this study and a related theory, the Organisational Change Theory (OCT). The Technology Acceptance Model is relevant and crucial to this study as it emphasises the importance of lecturers accepting the usage of new technologies such as LMS at TVET Colleges so that the colleges can fully benefit from LMS to improve the quality of education offered. The usage of LMS in Sub-Saharan was reviewed and the different policies relating to the usage of LMS in South African Higher Education Institutions.

# **CHAPTER TWO**

## **LITERATURE REVIEW**

### **2.1. INTRODUCTION**

Chapter (1) presents the background of the research, states the research problem, aim, objectives, research questions, and provides the layout of the chapters. This chapter (2) focuses on the theoretical framework that underpins this study. In the literature review, the usage of LMSs globally and nationally is compared. The literature was guided by the aim and objectives of this study which centers on the utilisation of Learning Management Systems in TVET colleges.

### **2.2. THEORETICAL FRAMEWORK**

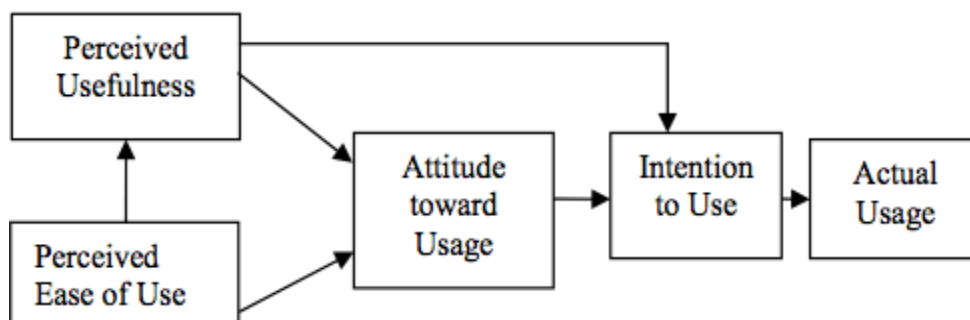
#### **2.2.1 Technology Acceptance Model (TAM)**

TAM was developed by Davis (1989) to analyse, promote technology acceptance and comprehension. The TAM has been successfully used in academia worldwide; therefore, this theory is applicable and relevant for this study (Marikyan & Papagiannidis, 2023). According to TAM, technology acceptance is influenced by an individual's expectations; and since behaviour changes a person's worldview, this in turn determines the technology's usefulness.

The utilisation of information technology has grown exponentially in the Higher Education sector; however, end-users still resist to transition to e-learning applications. Research has been conducted to study the behavioural intention of end-users towards using new technologies to understand what could impact on the adoption or rejection of these technologies. This study is underpinned by TAM (Davis et al, 1989) which is the theoretical framework that is most effective in understanding the acceptance (or rejection) of Information Technology. In the year 1989, Davis developed the TAM which he adopted the Theory of Reasoned Action (TRA) explains the attitudes and behaviour of accepting technology in an organisation. The TAM framework suggests that the using technology is highly determined by a persons' behavioural intention, which is determined by how the user of the technology

perceives the benefits and usefulness of the technology for them, including how the person feels about how easy the specific technology is to use, and the persons attitude towards it (Davis et al, 1989). This model provides an insight on how the end-user behaves when using a range of computing technologies therefore kit is theoretically justified (Fındık-Coşkunçay, Alkış & Özkan-Yıldırım, 2018). This model aims to identify actual behaviour with behavioural intention. To fully understand the actual behaviour of the end-user, one needs to identify behavioural intention and its direct predictors. The TRA, attitude was excluded as its aim was to identify predictors that are directly linked to the behavioural intention from external factors, differently from TAM.

Further, according to the model, “*perceived usefulness*” is the user’s potential subjective likelihood of using a particular system (e.g. LMS) that will enhance usability, and “*Perceived-Ease-of-Use*” is the level of simplicity which the potential user considers the technology to be (Davis, 1989). Other elements are referred to as external variables in TAM (see Figure 2.1), might have a certain impact on a person’s belief about the system.



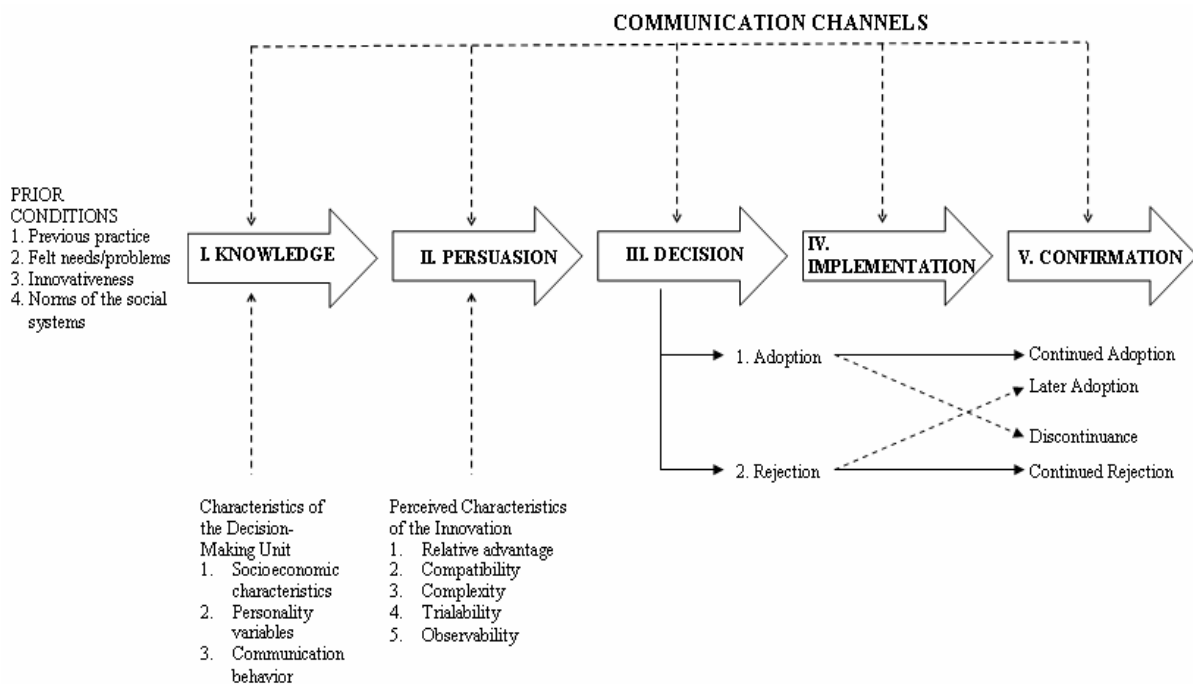
**Figure 2.1:** The Technology Acceptance Model [TAM] (Davis, 1989)

In the diagrammatic representation of the TAM model (Figure 2.1), there are two main factors: “perceived usefulness, and perceived ease-of-use” which are relevant in behaviours related to computer usage, such as in LMSs. According to Davis (1989), “perceived usefulness” is the users potential or probability that that using the specific technology will have a positive impact and enhance the users’ life or job performance in general. “Perceived ease-of-use” is the level at which the user expects the system to be easy. According to TAM, these two factors are the most important determinants of using the actual system and are affected by different factors such as external social, cultural and political factors. Social factors include language, skilland facilitating conducive conditions, while political factors are mainly impact using technology in politics (Su & Li, 2021).

The success of the TAM is limited to the system's total utilisation and not to the actual use of individual tools on a task-by-task basis (Schoonenboom, 2014). The TAM is a popular framework used broadly to explain Information System (IS) usage, which directly relates to this study because it explores the utilisation of an information system in a TVET college. However, the development of online education or LMSs is often affected by the inconsistency of the current technological level within a nation. The LMSs and online education platforms, can easily be influenced by different educational concepts, people, the external environment, and network technologies as they are relying on this network technologies - which are still not fully understood and developed because they are new innovative models which are used in education (Su & Li, 2021).

### **2.2.2. Organisational Change Theory (OCT)**

The study also uses Rogers' (2003) Organizational Change Theory (OCT) which maintains that organisational performance in terms of innovation is dependent on structural elements such as external environmental features and individual characteristics. According to the theorists Pettigrew, Ferlie and Mckee (1992), the ability of the public sector to accept or to be disposed to change is determined by policies, managerial support, inter-organisational institutions, and a supportive organisational culture (Batras et al, 2014). This theory is relevant to this study because it is located within the field of education and management which is important to this research because it serves as a guide in preparing personnel and management for future e-learning transitions, including the introduction of LMS in the TVET sector. The ability of lecturers and administration to be responsive to changes (such as the migration from face-to-face education) has a direct influence on an institution's growth. The South African TVET education sector is more than ever before entering a new era, one marked by rapid changes in technology. Change Management has become one of the priorities that must be enacted at TVET colleges because it directly impacts institutional goals and decision-making processes. During the Covid- 19 pandemic, the rise in remote learning practices made it imperative to effect change management processes which became one of the priorities at TVET colleges.



**Figure 2.2:** Organisational Change Theory [OCT] (Rogers, 2003)

### 2.3 LITERATURE REVIEW

Many challenges led to the failure of ICT initiatives in education which includes inadequate planning and mismanagement. Additionally, there is a fear of using technology because it is not user-friendly, lecturers do not have a sound knowledge of LMSs, insufficient training, absence of relevant training materials, limited access, and inflexible classroom infrastructure, among others (Hasan & Al-Mamary, 2022). The introduction of LMS to support and improve teaching- learning efforts are significant undertakings, especially in TVET colleges. The initial point for launching LMS is to evaluate institutions' preparedness. This may be accomplished by conducting a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis which includes revising the organisation's objectives, considering the restrictions, and ascertaining the availability of resources. This readiness assessment should be thoroughly conducted otherwise the plan to adopt e-learning processes at TVET colleges would be incomplete and derailed such that LMSs would be sidelined in overcoming TVET challenges.

### **2.3.1 Learning Management Systems (LMSs)**

Different Higher Education Institutions (HEIs) employ individualised LMSs (WebCT, Blackboard and Wimba) which enable accessing online information, availability of teaching and learning tools, course delivery, and course management.

LMS is an application in Information Technology (IT) which is mostly used by lecturers to develop and upload academic material. Lecturers can post academic course content on the LMS and update events that require the students' attention and manage the interactive communication on the system. Research (Damia et al, 2021) found that students' satisfaction with LMSs correlated with perceived usefulness, communication quality, and computer literacy. The belief that LMSs can improve teaching- learning and academic operations has led to a widespread implementation of the system. However, LMS use for academic purposes is not necessarily related with student satisfaction for the system. In HEIs, LMSs store and disseminate educational materials, supplement administrative functions, and facilitate communication processes associated with teaching and learning.

Additionally, the LMS is a web-based application that supplies educational materials, promotes effective communication, and facilitates collaboration opportunities. Examples include information on course assignments, recordings of lectures, accessing and tracking users' progress, provision of timeous feedback, and supervision of the learning process. LMSs transform learning experiences in HEIs. In addition to this benefit, they facilitate teaching-learning during student learning disruptions such as student protests. Regardless of the benefits of LMS platforms such as Blackboard, the utilisation of LMSs by TVET college students has been mediocre. Research has proven that the usage of LMS is crucial for the academic success rate of students in higher education institutions (Matarirano et al, 2021). The LMS usage varies according to the lecturers needs and objectives, it can be used for a specific topic in a lesson, or in aspects of the curriculum depending on the context. Also, it assists in collating students' academic results for storage and analysis which simplifies teachers' management of students' progress. Moreover, LMSs are crucial when applying blended learning techniques and improving teaching and learning.

LMSs have grown in popularity in education since they simplify and expedite teaching-learning processes, especially in tertiary institutions. To determine willingness and the level

of readiness of an education institution to implement a LMS, we need to determine if equipment used to support digitisation is available at Institutions of Higher Learning, particularly TVET colleges (Mbangwa & Mtembu, 2020). The LMS increases interaction, circumvents time- constraints, and provides information in-class and out-of-class. Teachers may also employ LMSs for announcements pertaining to modules, comment and provide guidelines on assignments, allow students and teachers to hold discussions and exchange information after hours. The LMS also be used for purely online distance education classes (common among HEIs), or it can be utilised for blended learning by schools in general.

Further, the LMS is described as a software package that allows instructors to manage and distribute course content and resources to students. The majority of LMSs are web-based to enable students to download academic content from any location at any time, which is also a great advantage to HEIs. The LMSs allow students to register for a specific course and give lecturers the tools they need to produce and distribute content, track student involvement, and evaluate their performance online. Accordingly, the LMS's interactive features such as discussion platforms, videoconferencing, and message systems are available to registered students which help to support teaching and learning.

## **2.4 GLOBAL LEARNING MANAGEMENT SYSTEMS**

LMSs are now very popular in Higher Education Institutions (HEIs) across the world, especially universities and colleges. The use of LMSs in most colleges in Australia and Canada integrates teaching-learning processes with supporting technologies such as virtual classrooms to enhance learners' performance through technology (Gamede et al, 2021). According to the 2015 Springs Report, only 5.3% of USA institutions which had more than 700 students each are currently utilising LMSs; a substantial improvement from 2014 when 7.4% were not using LMSs (Edutechnica, 2015). These statistics reveal that there are several advantages to utilising the LMS, which may be the primary reason for 95.7% of USA schools utilising LMSs. The USA is one of the few countries that acknowledged the use of LMSs in schools for academic objectives.

Post-school restructuring in the Netherlands contrasts with the UKs experience to reform its institutions. This comparison shows that for educational change to happen, there are challenges that institutions and the government need to go through. The Netherlands has a

TVET system that is ahead of most TVET College systems across the world because of the stability and support institutions and the government managed to achieve during the movement of restructuring. They managed to rapidly implement ICT while merging colleges, imposing performance management assessment to improve employee performance, and they adopted national qualification frameworks and focused on an outcomes-based education approach. The Netherlands also introduced the TVET educational reforms to ensure that their education system is strengthened in line to changing FIR needs. The corporatist Dutch industrial relations system contributed largely to this success which ensured the post school system is moved smoothly to the new model, which was a result of trust and buy-in from industry and different unions (Kraak, 2016). Furthermore, the vocational opportunities young people were afforded from employers during their training in the TVET sector contributed the very low youth unemployment rates in Netherlands in the European Union; third to Germany and Austria. The Dutch TVET system enjoys considerable support from young people, with most of all secondary students enrolling for well-established, flexible, and clearly structured TVET career- programmes. According to studies (Joynes et al, 2019) conducted in Central Asia, teaching and learning that involves the usage of the internet is low at TVET colleges even where institutions have good internet-connections. It was noted TVET colleges mostly use ICT to teach basic ICT skills and the use of basic software applications (Joynes et al, 2019).

#### **2.4.1 Employing Learning Management Systems in Sub-Saharan TVETs**

Most HEIs in sub-Saharan Africa currently use LMSs which are web-based and designed to improve and support institutions' academics. The LMSs include many of the features that allow lecturers to share academic materials and provide effective online interactions with their students therefore, it is crucial for TVET college management in sub-Saharan Africa to provide more support and resources to ensure that the processes of using LMS is accelerated to achieve the demands of the development goals in Africa as a whole (Nawi et al, 2020). Blackboard, Sakai, KEWL, and Moodle are the most extensively used LMSs in the region (Mtebe, 2015). Lecturers generate and upload online academic materials through the Internet; hence, institutions utilise the LMS to augment the conventional face-to-face delivery of lessons.

Many African countries have begun to transform their educational systems to keep up with the activities happening around the world. Countries in East Africa developed policies to help

them in the execution of ICT in educational institutions (Hennessy et al, 2010). Technology is critical in building dynamic and user-friendly virtual worlds in today's set-up. This is a vision for many developing countries as they want to also close the technology gap between themselves and other countries (Nwabude, 2012). The e-Learning Africa Report 2012 which examined the use of several technologies, discovered that the Moodle LMS was the most popular in Africa. A survey conducted by Isaacs and Hollow (2012) revealed that 74% of the participants employed ICT in their lecture halls for teaching and learning. More than 52% of teachers also utilised the internet to source teaching materials. In 2009, Unwin et al. (2010) conducted interviews with representatives from 25 African nations, and despite the limitations of resourcing, their research revealed that there was an increase in the usage of LMS in schools, with the highest increase reported in Kenya and in South Africa. Many South African universities are implementing LMS to improve teaching and learning after observing benefits in other institutions. These LMSs assisted college students in their studies by ensuring that content and general materials were conveyed without difficulty. A link between LMS usage and academic performance has been found by many studies for in courses offered online.

Students who use technologies in their everyday interactions may differ in their preference for a particular type of technology or application in formal learning settings. There have been many technological changes over the years; for instance, technological developments in science in the last ten years resulted in an increase to the use of electronic devices that work fast and are cheap (computers, laptops, and mobile phones). Therefore, TVET college management must adapt to the changing needs of the student population by installing LMSs to effectively enhance outcomes at their institutions.

According to Adkins' predictions (2013), the adoption of LMS will increase at the rate of about 15% per year between 2011 and 2016 in Africa. Currently, the rate of LMS adoption has increased in higher education in sub-Saharan Africa; however, despite this, the actual usage is reported to be low. Alarmingly, it has been noted that after people have received LMS training, they do not use it especially in institutions in sub-Saharan Africa. For example, In Zimbabwe more than 10 000 users were trained on LMS usage at the National University of Science and Technology of Zimbabwe however, only 20% continued to actively use it (Dube & Scott, 2014). This situation is not only in Zimbabwe but many institutions in the region experience a similar situation. This is a clear indication that the management of these institutions should

intervene to ensure that these systems are being fully utilised because much financial investment was occasioned in implementing LMSs. According to Aina & Ogegbo (2022) TVET colleges need effective management for growth especially in the technologically fast paced world we are living in. Additionally, for a LMS to give the expected output benefits, the management of institutions should explore different ways to ensure that LMS is used effectively within their institutions. In sub-Saharan Africa most of the LMS users were not exposed to technology and are not familiar with the information systems, and therefore do not have much confidence in operating these systems. Teachers often have limited access to ICTs and therefore lack the necessary skills to facilitate LMSs (Aina & Ogegbo, 2022). To ensure that LMS is used effectively, it is important for institutions to ensure that the LMS is reliable, and effective to be used by ensuring that it is timely, and effective support services to students and lecturers is provided. The support includes ongoing training, provision of resources, and technical services which are critical for users to continue the unimpeded use of the LMS at the institution. Moreover, daily support services are crucial which include telephone support, email, phone messages, and online information which may include videos.

However, clarity is not provided on whether the LMSs are user-friendly to learners in African institutions because institutions have not been conducting feasibility studies after implementing these systems. It is important to note these systems were not developed with African users in mind therefore, they will experience usability problems. Research indicates that 54% Moodle users were interviewed at the Open University of Tanzania indicated that the system was difficult to use especially when uploading learning materials (Bhalalusesa et al, 2013). Similarly, in a University in Uganda (Mayoka & Kyeyune 2012), over 80% of students and over 70% of faculty members indicated that the LMS was not user-friendly. In another study, Mabila, Gelderblom and Ssemugabi (2014), agree that usability challenges prohibit students from using the LMS at the University of South Africa.

Since Information and Communication Technologies (ICTs) are tools for education reform, HEIs use them to expand access to education, increase the quality of education, and assist digitally in strengthening the link between education and the workplace. These ICT tools also accelerate teaching and learning processes by increasing engagement closely related to real-life experiences (Khan et al, 2015). Since access to information is a priority for students to excel academically, LMSs are invaluable at TVET colleges to attain higher levels of all-

round performance. Hence, TVET colleges must ensure that these ICT tools are used effectively to guarantee that students from the TVET colleges are not left behind.

According to the *Green Paper on Post-school Education and Training (2012)*, TVET colleges are expected to increase their enrolment from 650 000 to 2.5 million by 2030. As a result, TVET college management must fully implement the usage of LMSs to meet the academic needs of the students. Since TVET colleges are expected to address the high unemployment rate in South Africa, they should provide practical skills' training to fully prepare students for the workplace (RSA, 2014). Thus, TVET college management should drive their institutions to become competitive in the global arena. Advances in technology have led to TVET colleges transforming by utilising ICT tools such as LMSs to advance the goals of these colleges.

Further, the LMS is used as an electronic storehouse for learning resources in HEIs (Vovides et al, 2007), particularly those that provide distance education. Others employ a combination of LMS and conventional face-to-face tuition to reach out expansively to more students across geographical borders (Andersson & Grönlund, 2009). Because of these advantages, HEIs in sub-Saharan Africa have continued to implement LMSs in recent years such that LMS use in Africa is expected to expand at a rate of 15% per year (Adkins, 2013). Many higher education institutions in sub-Saharan Africa cannot access ICT to use LMS but, mobile devices assist in making it easier to adopt and operate LMSs to keep pace with global technological advancements to obtain high quality outcomes.

Also, there are other challenges for TVET establishments such as the provision of appropriate infrastructure, designing and revising existing course content materials, and planning ongoing on-site IT training sessions to reinforce e-learning usage. There is also the need for modern tools to be used in TVET colleges by lecturers to keep abreast of changing times. (Mohamed & Wahba, 2011).

Other major barriers leading to low and ineffective use of technology in TVET colleges include lecturers' negative attitudes towards technology and resistance to change which is largely due to their lack of ICT skills. Lecturers were not given the skill within their TVET teacher-training curriculum or that new technologies were not in existence then, this posed as a barrier which was exacerbated by the lack of appropriate infrastructure and funding to train

lecturers, and support staff to implement ICT effectively. The lack of skills provision in ICT led to TVET colleges receiving poor administrative support; hence, the low motivation and minimal ICT adoption in these institutions, especially in Africa.

Moreover, there is limited usage of ICT in technical subject offerings in the TVET sector; this has obvious implications. The incorporation of ICT in current education systems precipitated a significant migration in the teaching and learning processes which required that lecturers have adequate training in technology, in addition to the availability of sufficient technical support (Rogers & Donna, 2003). The TVET sector, especially in developing countries, is faced with the task of developing staff to capacitate and upgrade them with current trends in technology-usage for lesson-delivery.

In sum, TVET colleges should develop intensive programmes to train technicians and lecturers in ICT technologies to ensure the sustainability of projects to achieve quality academic outcomes. According to Oketch, Njihia and Wausi (2014), it is imperative for institutions to provide astute and visionary leadership to promote educational technology at TVETs to develop students holistically who will be ready to work in a world dominated by digital technologies.

#### **2.4.2 Learning Management Systems (LMS) in TVET Colleges**

The core function of the LMS during academic hours is to enhance and supplement the lecturer's teaching in the lecture room. As such, a dynamic and effective LMS is considered as a support mechanism for the delivery and management of teaching and grading processes in the higher education sector. As technology is not one of the most important tools to development in every aspect of life, HEIs are now mainly managed through institutional LMSs, which cater to the needs of all stakeholders, specifically students and lecturers. Unlike in the basic education system where students depend entirely on the content delivered in the classroom (Veluvali & Surisetti, 2021), LMS-based interactive learning is beneficial, both to lecturers and students in multiple ways. This includes the effective provision, discussion, and sharing of study materials, in addition to the reduction of time through e-filing storage facilities and administrative electronic applications. The objective of implementing LMS-based interactive learning is to create an environment where lecturers can easily exchange course content with students and students can easily communicate with lecturers, while building a positive shared experience. Moreover, LMSs

offer administrative advantages as they allow the lecturer to manage multiple modes of learning content in a short space of time. Also, lecturers can intervene on-line to advise students on their responses to academic tasks if the need arises.

Importantly, the implementation of LMSs is an adjustment process that needs to be driven by the management of institutions to ensure that LMSs are enjoyed by all role-players in the institution. Accordingly, management should evolve into change leaders who can make a pivotal difference in effectively promoting the usage of the LMS to engender quality academic results as well as to promote the smooth functioning of the TVET administration. Also, the management of institutions can appoint ambassadors of the system who will be responsible for ensuring stakeholder buy-in, which sometimes becomes the biggest benefit to the successful and effective implementation of LMSs (Veluvali & Suriseti, 2021).

Further, HEIs are leading the way in creating programmes that include various aspects of information technology as evidenced in the rapid rate of ICT development in other regions of the world. Because students' views have evolved over time, the goal is to inspire them to acquire skills by using efficient and reliable internet platforms. Students now enrolled at HEIs are more likely to adapt to technology than those of twenty years ago.

However, the roll-out and utilisation of these digital platforms present challenges for both the Government and the TVET institutions. To adapt to change and meet e-learning objectives, TVET colleges need a strong, committed, and astute management structure. Accordingly, improving the quality of management is often recognised as being critical in addressing the TVET sector's technical concerns such as developing and implementing the LMS. Poor management structures (and personnel) and a lack of cooperation are directly connected to the impediments that TVET colleges face (Sithole, 2019). According to Terreblanche (2017, p.18), TVET colleges' resources are not aligned to the principle of prioritisation as 60% of TVETs have ineffective management and leadership who are incapable of dealing with challenging issues that the college may present. The responsibility of the TVET college management should also be geared towards the implementation of LMS and ensuring that students and staff have access to the necessary IT equipment, technical support, appropriate infrastructure, and up-to-date materials for online learning such that LMSs are successfully used on campuses to facilitate teaching and learning processes with support from management and trained IT support staff. This means that the increase of technology usage

in TVET colleges demands that management provide staff development programmes to upskill employees to become more comfortable and techno-savvy with LMS operations.

Meanwhile online teaching and learning is becoming more commonly utilised because new ITC equipment is now less expensive, while various types of multimedia platforms are becoming more accessible. Also, online education (e-learning) is being utilised to satisfy the demands of course participants' lifestyles by allowing them to balance personal responsibilities, manage time, and access course materials from a range of places (Zuochen & Richard, 2010). The LMSs are in the form of software meant to develop, distribute, and manage educational materials. The LMS can be installed as a stand-alone application on the organisation's server-based or be based on the institutions cloud platform.

Further, the basic core function of the LMS allows lecturers to upload learning material, continue with academic lessons, send notifications, and exchange data among authorised users. The most common way for an LMS to operate is through a web- browser and a secure sign-in process. Online learning, computer-based knowledge, virtual classroom opportunities, and digital collaboration are examples of e-learning applications and processes that give students and lecturers easy access to current courses, while administrators and managers can monitor students' progress and advise them for possible improvements. The internet, intranet/extranet, audio or video cassette, satellite TV, and CD-ROM are all instruments to provide course content. It may be self-paced or instructor-led with texts, pictures, animation, and videos, among others. Because of the relevancy and variety of programmes, this facility would be ideal for TVET colleges (Streng & Broll, 2008).

Developments in Information and communication technology (ICT) have made ICT to become an integral part of almost every aspect of our daily lives (Johnson & Smith, 2010). This is apparent in the Higher education sector where ICT tools transform education to satisfy the demands of maintaining quality, boosting educational standards, and improving teaching and learning experience. The introduction of online and blended learning by most HEIs globally, precipitated by the Covid-19 pandemic, saw an increase in the usage of technology- based learning (Denhere & Moloi, 2021). In addition, LMSs such as Blackboard and Moodle are examples of online learning systems that have aroused the interest and investment of HEIs globally because they have enhanced the academic experiences (Blin & Munro, 2008). Global improvements in data connection availability and cheaper pricing helped to make e-

learning an easier option for Higher Education (HE).

The advances and the rapid growth and evolution of technology knowledge, particularly among the youth, the advantage of employing technologies to enhance tertiary education programmes led to better results. In other words, students easily access information because online technologies are flexible and quicker to provide a variety of options through different educational platforms that enhance academic performance. Many institutions in South Africa use individualised LMSs (e.g. WebCT, Blackboard and Click-up) which facilitate the access of online material, teaching-learning tools, course delivery, and course administration. The South African TVET sector is critical for the development of scarce skills which are critical for the development of the country's economy. Consequently, the provision of technical skills to attain quality standards at TVET colleges is crucial (Thlamedi, 2018). Also important is that TVET college lecturers' training to gain new knowledge in teaching and learning methods aligned to current technological trends, which will capacitate them to apply LMS interaction tools to improve lesson delivery, designing assessment tasks, and in record-keeping (Ismail, 2012, p.65).

Lamentably, TVET colleges are now dealing with high dropout numbers as well as low completion rates. This can be a sign of low-quality teaching and learning service-delivery (e.g. traditional teaching-learning techniques) as well as weak institutional management (Mgijima, 2014:359). The situation was aggravated by the fact that although TVET institutions have seen an increase in student enrollment, there was no comparable increase in instructor recruitment which resulted in a rise in the lecturer-student ratio from 1:20 in 2002 to 1:55 in 2012 (Thlamedi, 2018). This is significant evidence that TVET institutions urgently require LMSs to facilitate the successful delivery of tertiary education which will increase pass rates. TVET college management must urgently transition towards global trends concerning technical skills development for staff and students to respond to the requirements of trade and industry to boost the SA economy (Robertson, 2015). Also, for TVET college management staff members to become skilled, astute, and innovative, they need to be trained intensively to develop strong leadership qualities to eradicate the label that many TVET colleges are 'second-class institutions' that are notorious for dysfunctional (RSA, DHET, 2014) which has implications for managers of TVET institutions.

The success rate and the quality of education at TVET colleges are also dependent on the

effective and efficient usage of LMSs to enhance institutional operations. Hence, TVET colleges must recruit capable and resourceful management that will advance the vision of TVET colleges and thus meet the mandate of the sector.

## **2.5 COLLEGE MANAGEMENT AND THE NEW TECHNOLOGY ROLL-OUT**

A lot of changes can be documented in the TVET sector over the past twenty years which included, amongst others, the merging of colleges, decreasing staff and downsizing, phasing out and introducing new academic programmes, building of new infrastructure, improved college governance, shifts in management structures and accountability, introduction of technology, different approaches to staff recruitment, and a focus on lecturer training. These institutional changes stimulated the progress of TVET college management whose responsibility was to ensure that targets and benchmarks and the introduction of change indicators. These changes also accelerated the growth and the need for a spread of managerialism within the TVET sector (Mather, Worrall & Mather, 2012, p.537).

Additionally, organisations tend to manage change from a technical standpoint, hence they introduced relevant and latest technologies for cost reductions and efficiency improvement (Beijer & Gruen, 2016, p1). When organisations adopt innovative technologies, they are compelled to transform via change management processes which give rise to strategies that effect positive changes which assists in attaining successful organisational performance (Du Plessis & Mabunda, 2016, p.53). According to the Association for Project Management (APM, 2018, p.28), change management is a "structured approach to moving an organisation from the current [stagnant] state to the desired future state". This process is important to organisations as it enables them to identify and circumvent barriers to change; for example, employee resistance to certain changes such as the introduction of LMS, therefore organisations can apply change management models to assist the employees to be more at ease. Organisations we prompted to engage in change management programmes include because of changes in technology, changing employees, competitive pressure, and rapid FIR development (Stouten, Rousseau & De Cremer, 2018, p.752).

If organisations can implement successful organisational change, they are able to increase the level of employee performance which leads to stimulated organisational innovation. (Kotter, 2007, p.4). A lot of factors contribute to employees resisting change therefore,

organisations need to develop a proactive approach to ensure that change is smooth and does not leave employee unease as change is a permanent feature within organisations which requires management which is competent and able to manage the change effectively. (Hoosan, 2015, p.58). In this study, change was regarded as the response to developments with an intent to improve the competencies of lecturing staff and students to start using LMSs smartly and effectively to improve the TVET's all-round performance. Through change management often new job descriptions and/or added responsibilities arise for the employees therefore, management should always consider the needs of employees and to keep them in mind during the changes. Employees of TVET, especially the lecturers who did not use LMS applications before, will now have to be trained to use the system (Bovey & Hede, 2001, p.540; Galbraith, 2018).

Employee involvement and technical support (among others) during this transition to adopt LMS is important. If the employee resist to the change, this will negatively impact the organization as the change may not be implemented properly (Ionescu, Merut & Dragomiroiu, 2014, p.295). In a study conducted in South Africa, a large percentage (70%) of change initiatives do not get implemented fully due to employees resisting the change, other reason for the failure is a lack of implementation of the change management processes (Ewenstein, Smith & Sologar, 2015). This failure can be avoided if the employees get assistance and are made to understand the changes which should be addressed through change management process that will assist to put the employees at ease. Gleeson (2017) mentions that there is a high rate of failure pertaining to initiatives of change management due to a weak culture of change exhibited by the lack of participation and training. Gleeson (2017) adds that often employees are afraid and reluctant to commit due to past failures; they lack motivation which create barriers to change, thus it is important for management to train staff members thoroughly.

Change resistance can be reduced through effective communication, ongoing training, and demonstrating that new initiatives will be of more benefit to the organisation than the previous system. Communicating with employees prior to the change is crucial to notify the employees of the change and during change communication needs to continue to walk the employees on the change journey and to involve them throughout (Bordia et al., 2003, p.3). Kotter and Schlesinger (2008, p.5) contend that if employees were effectively communicated with on the change that occurred, employees would fully understand why the change is necessary,

their involvement in the change and how the organisation is going drive and support the change employees would have less reasons to resist it. Logic behind the change rather than resist it. For example, if a certain TVET college introduces the LMS, the management of that institution would have to communicate effectively and unambiguously with staff members and train them to ensure that there is no reluctance to use the LMS.

Although change communication techniques and training are extremely important, Kotter and Schlesinger (2008, p.5) mention two setbacks: it is time-consuming and costly in the initial stages. Managers of institutions therefore need to budget for LMS and make the related resources available. In addition to the provision of regular training, various cost-effective forms of communication can be used such as emails, organisational intranet, portals, online meeting platforms, and social media. Organisations should use these available communication platforms to ensure that all staff members understand the introduction of new methods of doing things, and the need for change.

### **2.5.1 Deliverables and the Role of Management**

There have been many advances in ICTs, especially in the performance of educational activities which are relying a lot on the internet and other online platforms the LMS, which is one of the widely used applications in HEIs, supports and facilitates TVET course activities. Therefore, the effective implementation of LMSs is crucial to improve the quality of academics, in addition to providing easy access to cost-effective education and training.

Therefore, HEI management must ensure LMS is implemented successfully at different higher education institutions. For LMS to be used effectively in the education sector is highly reliant on the behavioural attitudes of lecturers and students, management and technical support, and the provision of ICT tools. In the TVET sector, students and lecturers are the end-users of LMS; therefore, they are indispensable to the successful usage of this system. LMS's are created for students as they are to benefit the most from the system therefore, they need to accept and adopt. (Fındık- Coşkunçay, Alkış & Özkan-Yıldırım, 2018).

The role of TVET college management in utilising LMS is to formulate ICT strategies that will promote and ensure the usage of ICT. Management also needs to identify personnel within the TVET Colleges to drive ICT strategies, to identify training needs of the identified individuals. College management is also responsible for the procurement of LMS technology,

IT infrastructure and its licences to ensure that these systems are up to date in terms of software updates. It is also the role of management to formulate a technology skills plan that will document and respond to staff technological needs and to assess which technological skills do their staff members have. Another role of TVET College management is to engage with DHET especially with regards to policy directive on the usage of technology or 4IR at TVET colleges as such a policy does not exist, which makes it difficult for TVET colleges to fully implement technologies such as the LMS because of the lack of policy direction for the department (Denhere & Moloi, 2021).

Furthermore, when introducing new technologies in TVET colleges, basic central services need to be provided which are in line with the top-down approach because there are a few decision-making processes that are involved, and also local services need to be provided. It commences with an evaluation of the environment and the current way of doing things at the TVET college, followed by a strategy to convince potential users to change, then to planning on how the other important IT systems will be linked, and lastly establishing a support unit and operations unit to cater for many users. Other fields of change management need to include all stakeholders and the strategy to be used for further development (Seufert, 2008).

Many institutions are in the process of introducing these technologies therefore, it would be meaningful to establish an information exchange network among them for an effective and ongoing progress. This process demonstrates that the networking and collaboration that is taking place at multiple levels needs to be intensified. These services are intended to make LMS easy to use for students, academic staff, and the university administration members. This will provide the skills to use ICT for their TVET academic activities. Management and support services need to ensure that these tasks are performed efficiently for the TVET college to function optimally. In this regard, Kubicek et al. (2004) identify eight fields of activities to consider when setting up Technology Enhanced Learning in an educational institution:

- “Integration into university administration”
- “Integration into curricula”
- “Qualification and pedagogic support”
- “Development of content”
- “Operation of systems, technical service and support”
- “Marketing”
- “Quality Management”

- “Strategy Development”

Four types of stakeholders in a college or university context can be identified (below), and the acceptance of these affected groups is critical in integrating new technology:

- “Students”
- “Academic Staff”
- “Institutions (Departments, Institutes, Schools etc.)”
- “Key administration and administrative services”

**Table 2.1:** Overview of fields of activity and the different stakeholders

|   | Students | Academic Staff | Institutions | Key administration and services |
|---|----------|----------------|--------------|---------------------------------|
| Integration to university administration            | -        | -              | o            | +                               |
| Integration into curricula                          | o        | o              | o            | +                               |
| Qualification and pedagogic support, consulting     | o        | +              | o            | -                               |
| Development of content                              | o        | +              | -            | -                               |
| Operation of systems, technical service and support | +        | +              | +            | +                               |
| Marketing   | +        | +              | o            | +                               |
| Quality Management                                  | +        | +              | +            | +                               |
| Strategy Development                                | -        | -              | o            | +                               |

The activity field tasks are related to these stakeholders in a dissimilar way. In Table 2.1 above, the fields and stakeholders are matched. The fields' relevance for the particular stakeholder is marked with the symbols +, o and -. "+" means high or very high relevance "o" means middle-rate relevance which is neither high nor low. Sign "-" means low or no relevance. When analysing the activity fields, one needs to consider the demands and aims of these group as some of them are the same for different stakeholders, these include “the need for security, privacy or availability”. However, many of them are particular for one of the stakeholders - for example, students want to access necessary information.

### 2.5.2 The quality of TVET College Management

South Africa TVET colleges are struggling with the implementation of effective management, efficient performance and to become first choice institutions as the Department of Higher Education envisions. TVET colleges in South Africa have undergone various changes such

as the merging of technical colleges and FET colleges, a shift from FET to TVET Colleges and the introduction of Vocational courses which have led to challenges for the management. TVET college management are characterised with poor leadership, lack of management skills, poor performance because of merging the colleges because prior 1994 skills competency was the main determining factor for hiring college management and now that there is a merger of the two colleges the requirements have changed and now include management competencies and a certain level of formal education. Most of the challenges experienced in the TVET Sector are directly linked to the poor management structure within the different TVET colleges hence the difficulty that some TVET institutions must implement the LMSM (Sithole, Wissink & Chiwawa 2022).

### **2.5.3. Network and Collaboration**

Differentiating between networking and collaboration is necessary as they are often used incorrectly. Networking where different parties come together, where each party has their own different tasks and can do their own decisions independently. A network is usually formulated to have a pool of expertise who will be able to exchange different knowledge on a certain issue which everyone has interest in. Second, the collaboration is where different parties involve come together to share tasks and decision-making with the aim of reaching a common goal. However, networking and collaboration co hand in hand with one another as they can merge at a certain point because of their synergetic characteristic. Concerning LMS implementation and usage, there is the need for networking and collaboration on different institutional levels. Internally within an institution networking and collaborations need to happen, and external as the connection between two or more external institutions. TVET colleges could possibly network and/or collaborate with many other organisations in one way or the other at an institution and beyond which may include but not limited to:

- Other HEIs;
- Online Library systems;
- Online matriculation data or staff directories;
- Lecturers and the students within the institution in different courses, and also from different institutions offering the same subject;
- The key administrators, responsible for teaching and learning;

## 2.6 POLICY DIRECTIVES ON LEARNING MANAGEMENT SYSTEMS

Policies are significant in creating and directing how staff members can employ various e-Learning technologies at TVET colleges. They are significant in providing a direction and strategies to be used on how certain technologies such as LMSs should be adopted and implemented. However, DHET does not have policies specifically dedicated to the usage of LMS or ICTs at TVET colleges; but it does, however, have policies in place that generally refer to ICT.

The TVET college sector in South Africa has long been labelled as being 'inferior' to other HEIs. The perception amongst communities is that students who attend TVET colleges did not qualify for university entrance, and the qualifications of their lecturers are also considered inferior. As a result, the DHET introduced the Policy on Professional Qualifications for TVET college Lecturers (RSA, DHET, 2017) as an intervention to improve lecturers' competence in the sector. The aim of the policy was to "contribute to the availability and development of quality lecturers for the TVET sector by stipulating a set of suitable higher education qualifications that can be used for professional and post-professional development of TVET lecturers" (RSA, Policy on Professional qualifications for lecturers in TVET, 2013, p.7). This document also stipulates the requirements for the professionalisation of TVET college lecturers so that they are encouraged to improve their qualifications.

The following policies such as the Policy on the Professional Qualifications for Lecturers in TVET, the White Paper on Higher Education, the Policy on the Provision of Distance Education in SA universities in the context of an integrated post-school system, and the Teaching and Learning Plan for TVET Colleges will be analysed using the Critical Policy Analysis (CPA) approach which incorporates varied perspectives and developments within a policy that aims to analyse and offer different strategies for examining educational policy issues. The CPA approach allows for the critical analysis of policies, in addition to advocating room for the improvement of policies. Critical Education Theorists (Young & Diem, 2018) assert that since education is ever evolving, it requires a more critical analytical approach: The CPA approach generally incorporates one or more of the following:

- Interrogates the foundation of educational policies.
- Investigates the difference between what is stated in the policy and the real-life practice of the policy.

- Examines the policies distribution of knowledge and resources as well as the distribution of power.
- Analyses the systems and broader environments that led to the policy being formulated and implemented; and
- Evaluated the impact of policy to address privileges and inequality within the policy (Young & Diem, 2018).

## **2.6.1 Policy on the Professional Qualifications for Lecturers at TVETs**

### **2.6.1.1 Roots and development of the policy**

The DHET (2013) developed a policy framework for qualifications for TVET college lecturers as an intervention to improve lecturers' skills in the sector. The aim of this policy was to improve the level of education, skills, and competence of lecturers to produce quality graduates for industry. A lack of training and qualifications relevant to teach in the TVET sector will not achieve the department's mandate of ensuring that TVET colleges produce competent students who will be ready for the workforce. Accordingly, TVET college lecturers also need to be capacitated to use online systems such as the LMS to ensure that students also become competent in using these technological systems.

### **2.6.1.2 Difference between policy rhetoric and practised reality**

According to the PQLTVET sector, a professionally qualified lecturer should be knowledgeable in the subject he/she specialises in and must manage academic environments effectively. This implies that TVET lecturers should be able to use LMSs effectively as it assists in managing the academics they offer. Lecturers should also be familiar with the demand of the industries of the courses they are lecturing, such that the subjects they teach should thoroughly prepare the students for the workplace (Van der Bijl & Oosthuizen, 2019). However, the reality is that a high percentage of TVET college lecturers are not professionally qualified because of the absence of a document regarding specific qualifications required for TVET college lecturers. Some TVET lecturers have sound knowledge of the subject they specialise in with industry experience but lack skills in didactics (or vice-versa).

As a result of the requirements of PQLTVET, the DHET (2013) and the European Union (EU) developed the Advanced Diploma in Technical and Vocational Teaching (Adv. Dip TVT) programme, which is the first academic programme to be offered to meet the requirements of PQLTVET (*Government Gazette No. 36554, 11 June 2017*). The diploma is suitable as a TVET qualification as it was developed within the Teaching and Learning Development Capacity Improvement Programme (TLDCIP). This was one of the Government's initiatives to address the lack of appropriate qualifications for TVET lecturers which was directed at improving their competencies through the Initial Lecturer Development and Continuing Professional Development initiative.

### **2.6.1.3 Systems and environments where policy is formulated and implemented**

The PQLTVET identifies qualifications for TVET college lecturers at both undergraduate and postgraduate levels that can be used to develop TVET lecturers professionally. College management and the Government should implement these policy initiatives and strategies to promote the use of tools associated with ICTs. These strategies include requiring accredited qualifications for TVET college lecturers that are in line with college outcomes to develop and recruit a competent and employable workforce. In addition to qualification requirements, developing academic resources for students and utilising appropriate online technologies are crucial for best practice. Moreover, the DHET and TVET college management should provide regular intensive training programmes for TVET lecturers to provide new knowledge that is needed for the TVET sector since curricula evolves from year-to-year. This will ensure that lecturers acquire appropriate technical skills for career development and mentorship. These training programmes need to be relevant to the different teaching-learning areas to be effective to uplift the TVET's standards of academic performance.

It is heartening that the current lecturers are being introduced and trained to the use of LMSs for teaching and learning as TVET colleges, especially those that previously did not use LMSs. They need to be provided with capacity-building initiatives to ensure that they were able to effectively incorporate LMS into their teaching and learning schedules. This implies that the DHET, together with college management, should ensure that colleges have high-speed internet connectivity and ICT facilities to operate LMS which should be freely available with unlimited capacity. In other words, a professional TVET college teaching qualification will have to incorporate ICT and LMS usage to enable TVET lecturers to function productively.

Additionally, Hofmeyr and Vally (2022) state that TVET lecturer development must be at the forefront of TVET programmes to be aligned to an age of rapid technological advancement such that every TVET college lecturer must be able to use LSM and ICT efficiently. The necessity for properly qualified professional lecturers with appropriate knowledge, skills, and digital competencies for the 21<sup>st</sup> century is imperative because the world is fast evolving technically. To achieve this, lecturers and management must upskill and reskill on an ongoing basis to ensure that TVET colleges keep up with the FIR.

### **2.6.2 White Paper on Higher Education**

The *White Paper on Higher Education* (1997) and the National Plan on Higher Education (DoE, 2001) emphasise the major policy goal of increased participation in higher education to expand opportunities for students to access HEIs, and to redress the injustices of the past. However, it does not specifically refer to the use of ICTs to increase access for this increased participation. The *White Paper* (1997) also emphasises the provision of flexible education programmes and courses to encourage access; but it does not refer to the flexibility in the modes of delivery provided by LMS or other ICTs. The *White Paper* (1997) also states that there should be an improvement in academic teaching strategies to increase the quality of passes and percentage of throughput rates, but it does not state whether ICT should be used for these purposes. The *White Paper* (1997) does not refer to involving technology, except for resource-based distance learning which must incorporate technology usage.

The 2013 *White Paper for Post School Education and Training* proposed collaboration between academic universities, universities of technology, and the TVET sector so that there is flexibility and upward mobility in higher education so that students from the TVET sector become motivated to move up the NQF level system. This is the reason TVET College management should ensure that LMS usage is efficient and user- friendly so that students do not struggle when migrating from TVET colleges to universities (DHET, 2014).

### **2.6.3 Policy on Provision of Distance Education in SA Universities: An Integrated Post School System and Teaching-learning Plan for TVET Colleges**

#### **2.6.3.1 Roots and development of the policy**

In the Policy for the Provision of Distance Education (DHET, 2014) the Government recognised how traditional contact classroom teaching and distance education institutions increased the usage of ICT. The aim of this policy was to encourage distance education in

South Africa, especially in HEIs as it affords access to a larger and diverse student population (Glennie, 2007). Also, in TVET colleges there is an increase in student enrolment resulting in a rise in the lecturer-student ratio for face- to-face classes; consequently, this policy seeks to provide strong support for the distance education programmes at universities as it plays an integral part in post-school education system. This policy aims on developing and increasing the intake of the post-school system primarily at university. Accordingly, TVET colleges can emulate this practice of providing distance learning to open more study opportunities for students. In this regard, it is encouraging to note that some TVET colleges are already offering distance education programmes.

The Policy for the Provision of Distance Education in South African Universities in the Context of an Integrated Post-School System (2014) notes the importance and impact of ICT in the higher education sector. This policy supports the integrating ICT to enhance distance education programmes, therefore an enabling environment should be created. ICT can be used to improve the standards and growth of distance education which promotes access and flexibility as priorities.

The traditional face-to-face meth of providing education is not sustainable in the current environment where a lot of the education institutions lack teaching and learning resources. It is therefore sustainable, alternative approaches such as open-online learning to be considered. To reach the 2030 target of 2.5 million enrolments set for TVET colleges as recommended in the *White Paper for Post-School Education and Training* (2014), the DHET has to revise how institutions operate by determining the impact of technology advancements in the long-term and how TVET colleges need to develop themselves fully to ensure that their students are employable after completing their courses by providing additional technology-based programmes (RSA, DHET, 2014).

According to the Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training (RSA, DHET, 2013, p.40), lecturers should be knowledgeable on their subjects of specialisation and must have the correct qualifications to manage academic teaching environments effectively. Lecturers should also be familiar with the demands of industry to prepare students for the real-life workplace (Van der Bijl & Oosthuizen, 2019). This policy aims to establish a national standard for lecturers in TVET colleges by responding to their needs and responsibilities in a college context.

### **2.6.3.2 Systems and environments where policy is formulated and implemented**

This policy aims to create a conducive environment where ICT can be integrated efficiently to enhance distance education provision in both public and private higher education institutions. It is suitable in that it guides TVET management to support distance education by ensuring access to relevant technologies. The DHET (2014) in conjunction with institutional management must put in place measures that ensures that every post-school student is enabled to access reasonable low-cost connectivity to study effectively and efficiently away from campuses.

The growing demand for higher education, especially distance education, leads to educational opportunities that must be cost-efficient when compared to traditional face-to-face higher education; therefore, there is the need to expand distance education programmes to increase student access.

### **2.6.3.3 Impact of policy: privilege and inequality**

There has been rapid development in ICT with an increase in ICT-related activity in the HEI sector. Since ICT is central to the dissemination, sharing, and application of knowledge and skills, ICT systems such as the LMS have led to developments in higher education that fosters teaching and learning efficiency. Although this is laudable, management and DHET must satisfy the national requirement that investments in education should reduce disparities between the rich and poor. This is a challenge especially concerning the provision of technologies that support distance education because poor students (such as those at TVET colleges) will find it difficult to access such technologies.

The key to achieving equity within the higher education sector is for DHET and management of institutions to ensure that ICT facilities are extended to meet the needs of all those enrolled in higher education, not only to those students who can afford to acquire their own ICT infrastructure and connectivity. Although e-learning and the use of LMSs continue to grow in importance in higher education, access to infrastructure and internet connectivity for all is a challenge for TVET colleges. To circumvent this situation, distance education and e-learning are used interchangeably at TVET colleges.

### **2.6.4 Teaching and Learning Plan (TLP) for TVET Colleges**

#### **2.6.4.1 Roots and development of the policy**

The 2022 Teaching and Learning Plan (TLP) for TVET colleges serves to develop and track the activities and responsibilities of TVET colleges. In addition, the responsiveness towards the improvement of the quality of curriculum delivery for enhancing students' success is monitored. This plan requires rigorous planning for curriculum delivery such that management in collaboration with lecturing staff emerge with proper documented plans to improve academic outcomes.

According to the TLP, colleges need to become innovative and responsive by being proactive to emerge with new skills and better programmes. This is one of the priorities of the Government priorities which requires colleges to be proactive and innovative in the courses they offer by introducing and utilising LMSs efficiently. This plan emphasises that TVET colleges use digital technologies and ICTs as a matter of priority as the Government has identified TVETs as growth points to meet FIR standards. Hence, for TVET colleges to develop they need to embrace and support Government initiatives by aligning their curricula for FIR. In this regard, LMS is one instrument that assists in determining if TVET colleges are prepared and moving towards FIR.

#### **2.6.4.2 Systems and environments where policy is formulated and implemented**

The TLP directs college governance structures, institutional management practices, and administrative functions to form a strong support system to improve the institutions academics. The plan states that “the college management carries the key responsibility for ensuring the sufficient provision of teaching resources for quality teaching and learning to occur, as well as for providing the necessary guidance and institutional policies for institutional efficiency and effectiveness in the delivery of education and training” (DHET, 2022:4). The plan also highlights that the role of lecturers in ensuring students succeed academically cannot be over-emphasised, therefore college management must ensure that all lecturers are adequately trained so that they utilise LMSs effectively. Management should also avail resources to deliver quality teaching-learning processes as stipulated in TVET curricula guidelines. According to the enrolment estimations of the TLP, engaging in innovation is important, not only for academic success, but for the preparation of students for the future economy through renewable energy in line with the FIR. Different innovative, creative, and progressive approaches to improving academics such as the effective usage of LMS is highly

encouraged by the teaching and learning plan.

#### **2.6.4.3 Distribution of power, resources, and knowledge**

The TLP stipulates that college management be guided by prescribed policies for delivering part-time courses, distance-education, e-learning, and learnerships, among others. This includes LMS platforms to accommodate future catastrophes such as lockdowns. It is also the role of management to ensure that appropriate teaching and learning infrastructures are available for every subject in all lecture rooms. These infrastructures include internet connectivity, broadband, software, network connections, computer rooms, and adequate furniture which are essential for the implementation and usage of LMSs at colleges.

### **2.7 TRANSFORMATIONAL LEADERSHIP IN EDUCATION**

The hierarchical model of education no longer works today. The craftsman apprentice model that had been working for many organisations has now been replaced by learning organisations, which has many knowledgeable workers who don't conform to top-down leadership approach (George, 2010). The relationships between management of an academic institution and academic staff, can be examined using school organisational theory model which evaluates the efficacy and relevancy. "Relatively little was known about how the programs conducted online learning" (Watson, cited in Berge & Clarke, 2005: 10). "The job of all educational leaders, whether their primary responsibility is to a single school or school district, is to create highly reliable organisations in which all children can be successful" (Hoyle et al, 2005 p.53).

Petersen and Fusarelli (2005, p.4), contend that "The American public has persistently demanded that schools align their work with changing demographics, social, economic, political, and technological realities of the society". Successful education managers understand the core needs of their institutions and thus provide proper leadership and good management principles to influence and implement necessary changes. Young (2005, p.169) states that "professional standards should be used as a foundation for the learning of professionals, around which faculty member have a responsibility to build programs based upon the students they serve, their conceptual framework, and the expertise of their faculty". Managers in the higher education sector need to ensure that their institutions conform to international standards by putting in place proper processes for these major changes. The

structural frame of leadership "explores the key role social architecture plays in the functioning of organisations" (Bolman & Deal, 2008, p.78).

According to Graen and Uhl-bien's (1995) it is important to evaluate the nature of roles used in organisations and the methods used to identify individual behaviours into: the physical domain, the interpersonal-social, and the personal domain. These domains play a crucial role in understanding lecturer/administrator interactions and relationships. The physical aspect of traditional classrooms is detached from online learning and therefore online learning has aspects of anonymity; students are no longer able to interact on an interpersonal-social level. The personal domain becomes a less in a virtual classroom when related to lecturer-administrator roles in expanding virtual education learning environments. Picciano and Seaman (2007, p.4) purport that "approximately 50 per cent of the total distance education course enrollment of 328 000 (or 164,000) is internet-based or online". Based on predictions, the United States Department of Education (USDOE) expected enrollment drastically increase to exceed 600 000 by 2005. The upward enrollment trend of 21<sup>st</sup> century learning is largely driven by technology which has an influence the management-subordinate relations.

The introduction of LMS and online learning can be synchronized, or unsynchronized fully online or an in-class blended course of instruction that requires students to be in contact with a lecturer, with most of the academic content being presented online or in a fully digitised classroom. This has put an end for management to micromanage daily academic sessions such as the lesson plan. Milan (2020) states that transformational leaders commonly create a vision which is the focal point for their organisations. This vision normally emerges from the collective interest of different individuals within the organisation. The vision, for transformational leadership provides the leader and the organisation with a conceptual map to indicate where the organisation is headed and how to navigate to the vision; it gives meaning and clarifies the organisation's identity. (Milan, 2020, p.190). "Within an organisational work unit, subordinates become part of the in-group or the out-group, based on how well they work with the leader" (Milan, 2020, p.152). Administrators in the 21<sup>st</sup> century struggle with the challenge of how to effectively evaluate and implement classroom technologies, as well as how to set appropriate goals for lecturers and the institution regarding digitalisation. An organisation's characteristics can be evaluated through four discrete elements: complex, surprise, deception, and ambiguity. These elements represent

"the complexity of human behaviour, the surprise of unanticipated outcomes, deception from undefined roles and responsibilities, and the ambiguity of organisational day-to-day confusion" (Harkins 2002:32).

Such traditional thinking aligns Harkins' (2002, p.11) concept of convergent thinking, which "Thrives on the qualities of the educational bureaucrat and visionless legislature" as opposed to divergent thinking that supports "reliably continuous innovation". Harkins (2002, p.11) believed that "American education appeared to operate on the presumption of continuity, resisting calls for substantial change [that] were synonymous with chaos, and therefore was, by definition, unmanageable".

### **2.7.1 Intention to Use Learning Management Systems**

The intention of a lecturer to utilise LMS assists in the prediction of the actual useage of LMS by the lecturer (Davis,1989) which is not indicative of LMS utilisation. The Intent to use the system is a self-reported scale for lecturers to anticipate whether students would utilise the system or not. This concept does not indicate how often or in what detail the LMS will be used. This concept is applicable to both instructors who use the LMS and users who do not. Intent-to-use was chosen as a key predictor of an lecturers' decision to utilize the system or not. This contributes to the research on the choice of adopting new online technologies, and particularly why LMSs are underutilised (Gautreau, 2011).

#### **2.7.1.1 Module Lecturer Management of Learning Management Systems (LMSs)**

The LMS is useful for not only pure online courses, but also to supplement traditional face-to-face learning. These technologies allow for greater student involvement increased interaction between teachers and students, and easier storage of information (Bacow et al, 2012). Another advantage of using a LMS is that all students have equal access to academic material online across university departments and campuses. Consequently, an institution's training expenses, and time are reduced by using a single learning management system. Institutions might focus their attention on one platform rather than providing training for several technologies. Because all students in a particular institution have access to the same resources and the LMS, which offers all-round consistency. Rather than altering teaching techniques or directly increasing student outcomes, LMSs are typically used to assist

instructional practice (Kirkwood & Price, 2013).

When lecturers were asked how pleased they were with their learning management system, 92% stated that they were satisfied with its functionality and features (Dahlstrom et al, 2014). Seventy-five per cent (75%) of instructors in the United States maintain that the LMS is a highly effective tool for improving academics, while 50% of all college instructors utilise it on a regular basis (Dahlstrom et al., 2014). Despite high levels of satisfaction among instructors and reports of extensive use of the LMS, it may nevertheless be underutilised. Lecturers may be underutilising the LMS by not exploiting all the 'facilities' available in the LMS. Basic course administration features are the most utilised functions by lecturers; however, functions with difficult features such as student academic applications are underutilized as often as expected (Allen & Seaman, 2012b; Dahlstrom et al., 2014). Although 56% of students contend that they wish lecturers used the LMS more, many instructors simply use it for basic duties like delivering course content and recording marks (Dahlstrom et al, 2014).

Additionally, lecturers may use LMS minimally or choose not to use LMS at all (Baleghi-Zadeh et al, 2014; Dahlstrom et al, 2014). The most difficult aspect of underutilisation is to comprehend why teachers prefer not to use a LMS at all. Activating a course and uploading a syllabus are very simple for an instructor, yet according to a nationwide study of 4564 professors and 591 administrators, 20% of instructors avoid this instructional step (Allen & Seaman, 2012b). Typically, a LMS develops a course template for an institution and lecturers are expected to upload content and build the grade book, design tests, and include discussion prompts. To provide students access to the course, the teacher must first activate the course shell. Even though 85% of teachers nationwide use the LMS provided by their institution, the percentage of adoption by instructors varies substantially amongst different institutions (Dahlstrom et al, 2014).

Providing a LMS, supporting lecturers and student training, and offering technical support for the system entails considerable expenditure for the institution. More in-depth research needs to be conducted on why lecturers choose to use the supplied LMS, and what prevents lecturers from using it. This will provide insight into enhancing decision-making processes regarding extra support for technology education, pedagogy, or institutional acquisitions. Knowing the reasons for instructors choosing to utilise a LMS can aid the institution in

maximising technology's potential to attain best practice (Gautreau, 2011).

### **2.7.1.2 Lecturer Control of Learning Management Systems (LMSs)**

Determining the real reasons for the usage of the LMS may be a difficult task. The utilisation of a LMS may be measured using two methods. The first method is to determine the extent to which the system is being used. This strategy requires gaining access to every academic programme that a lecturer delivers and assessing how often and elaborately each tool in the LMS is utilised. This strategy aims to describe how users of the LMS interact with online technologies (Schoonenboom, 2014).

The second technique looks at an instructor's desire to utilise a LMS rather than actual use, which predicts system utilisation (Davis, 1989). Instead of a researcher doing indepth research on the LMS to determine depth of usage, the intention to use a LMS is commonly gathered by lecturers self-reporting LMS utilisation through surveys (Wang & Wang, 2007). A variety of online learning technologies are available to support online courses. It is intricate to evaluate and understand all new technologies accessible in online learning. Every year, a deluge of new items is released from a range of companies. Instructors are responsible for learning how to adapt their methodology for online education, in addition to acquiring a whole new set of technologies for delivering the curriculum. The main reason for lecturers' lack of acceptance for online learning tools was a result of the lack of awareness about the available resources and how they may improve education to meet course objectives (McClary, 2013).

When deciding to employ a LMS to assist with academic course offering, a lecturer must implement various steps. The first step begins with the lecturer deciding on the job the lecturer wants to do. The lecturer has much control in learning tasks when teaching and addressing students' learning goals. The lecturer's teaching style, job of experience, discipline management, technological experience, and the type of institutional culture all have an influence on the tasks they choose to complete, as well as the technology tools they choose for the assignment (De Smet et al, 2012). The lecturer must determine if the task that needs to be completed is compatible with the technology accessible through the LMS which should be in sync with the learning management system's tool capability. If there is an increased level of task technology alignment or fit, the lecturer may consider using the LMS to complete the assignment. The lecturer's impression of how valuable and the LMS is

influences the lecturer's decision to utilise it.

Also, the lecturer's attitude about the system has an influence on his or her desire to use the LMS. The LMS's capabilities that the lecturer chooses to use may have an impact on the selection of tasks. This may involve collaboration, course administration, material distribution, communication, and evaluation which are all common features of the LMS (Allen & Seaman, 2012b). As such, a certain feature of the LMS may be used by particular lecturers, but not by others e.g. if a lecturer fails to utilise exams or quizzes in during contact class sessions, the LMS may never be used for assessment. Because most instructors generally distribute syllabi to their students, only one aspect of interest is what encourages lecturers to use the content delivery features on the LMS as the delivery medium for the syllabus to students (Allen & Seaman, 2012b). The main recommendation for LMS usage is to activate a course for to deliver the syllabus and its related aspects.

### **2.7.1.3 Attitudes of Lecturers toward Utilising Learning Management Systems**

As education changes, more innovative practices are put in place to implement key strategies such as institutional change management, staff professional development, and better communication techniques that are people focused. As these changes happen, institutions need to deal staff issues first, issues such as innovation capacity, insecurity, resistance, and phobia of technology during change processes. Since the attitude of a lecturer toward the LMS is a critical factor in its adoption by the lecturers, several studies have explored how to assess lecturers' levels of technology acceptance to determine methods to improve their technology skills. Buchanan et al. (2013) who conducted a survey of 114 professors to identify different factors that influence technology usage by the lecturer in the classroom, discovered that self-efficacy, a different measure of whether the technology is easy to use or not, structural characteristics, and whether the person finds the technology useful or not were all linked with technology adoption. Also, Calli et al. (2013) investigated e-learning usage by polling 930 students' attitudes about fun, ease-of-use, and multimedia efficacy, and found that despite the study being limited to students, it demonstrated the simplicity with which technology may be employed. All three characteristics had a favourable impact on usefulness, which positively indicated satisfaction on the use of e-learning tools. It has been proven that good instructors who use technology in their online teaching have positive attitudes and display acceptance of LMSs (Hsiao, 2012). In the TAM, attitudes about ICT recognition have an influence on how much technology is used (Davis, 1989; Venkatesh et

al., 2003).

However, the aspect of attitude is not always a good indicator of whether or not someone would utilise technology (Venkatesh et al., 2003). According to Yang and Yoo (2004), attitude has two components: emotional and cognitive. The user's emotive attitude refers to how much he or she enjoys technology, whereas the user's cognitive attitude pertains to the user's thoughts on the use of the particular technology. Questions of a cognitive nature are more effective in mediating the impact of simplicity-of-use and the desire to utilise technology (Yang & Yoo, 2004).

## **2.8 EXPERIENCE OF LEARNING MANAGEMENT SYSTEMS: MANAGEMENT SUPPORT FOR INSTRUCTORS**

It is critical for management to fully understand the importance of getting their employees to engage in the LMS as it is beneficial effects on businesses. Employees who are engaged, according to Yalabik et al. (2013), are self-motivated to attain organisational goals. If employees present increased energy levels, attention, makes voluntary effort and goes the extra mile, has healthy emotions, attitudes, and improved health records are all seen to be characteristics of employees that are fully engaged (Yalabik et al., 2013, p.11).

Additionally, employee engagement is critical for organisations to improve its productivity. Management should investigate the factors that affect employee engagement regarding the achievement of strategic goals. The knowledge gathered from relevant literature should help management focus on critical characteristics that can improve the levels in which employees engage on the system, their productivity levels, and retention. According to Bankar and Gankar (2013, p.317), employee involvement is a key factor in the effective execution of a change management programme; consequently, it is critical that management develops strategies that encourage employee involvement to boost the organisation's productivity. Employee job satisfaction will improve because of an effective change management programme such that employees will be more inclined to remain with the firm long after they have moved to a new location.

According to Chen et al. (2017, p.15), moving from a conventional to an online model, it is necessary to put together an institutional and staff structure that is compatible with

innovation, and can change to the new digital model. In this regard, employees expect their managers to be the source of knowledge such that change communication comes straight from them.

Further, the training that lecturers receive for learning how LMS is tied to their work, needs reconsideration. The more intense the lecturer's training, the more likely he/she will adapt and use the system effectively (Cigdem & Topcu, 2015). The rise in the use of technologies, there is a pressing need for TVET lecturers to be trained on how to use technology more effectively in their classrooms. Higher education institutions' use of online and blended learning in line with advances in technology, have overtaken support mechanisms for educating lecturers (Singleton et al, 2013). When an institution embraces online education systems, lecturers are frequently left out of the conversation, thus their knowledge may be overlooked. The TVET lecturers are often only given a LMS and instructions on how to utilise the system's capabilities. According to Nworie (2012), there is a need for more distance education managers who can assist other users in transitioning from the traditional contact teaching methods to online instruction which leverages technologies and encourages the implementing of innovative pedagogy.

A challenge faced by lecturers using online teaching methods is that they cannot decide on how to present their academic content online (McClary, 2013). Although TVET lecturers trained on how to use online technological tools, majority of them still struggle in figuring out how to present their courses online. Novice online educators must choose between using a video capture device or a camera to record their lectures which involve transcribing their traditional lectures and posting the transcriptions online, in addition to devising materials, uploading course content, and assignments online. (Hopewell, 2012). Hence, lecturers must be familiar with online tools, how to skillfully utilise them, and know the pedagogical benefits and shortcomings of each tool function. This would enable lecturers to understand the concept of incorporating ICT tools into their lessons.

Moreover, if technology is adopted, it allows for the realignment of the course and change towards a more to focus more on the student such that students take greater responsibility for their own academics (Torrissi-Steele & Drew, 2013). The addition of a LMS opens new possibilities (and problems) in terms of student engagement with other students, the teacher, and course administration concerns like assignments, assessment, material distribution, and

mark allocations. Online based teaching necessitates a new methodology and a set of skills, including becoming a mentor and organising how to set-up learning for academic content (Boling et al, 2012).

## **2.9 CHAPTER SUMMARY**

This chapter discussed the theories that underpin the study. Two theories were presented with clear illustrations. The discussions on relevant literature is aligned to the aim and objectives of the study. The role of management is reviewed with cases drawn from America, Europe and Africa. Since the role played by college management could not be discussed in isolation, it is related to all the sections of the institution that assist in the implementation and integration processes of changing to new technology.

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 INTRODUCTION**

The study aims to explore the role of TVET college management in the utilisation of LMS, and how they can enhance the usage of LMS at their institutions. The research design and the methods are discussed in this chapter. Research methodology is described as “a process of inquiry which indicates how a study will be conducted” (Mafuwane, 2012, p.67). This entails the plan for data collection, describing the study’s setting, design, the sample group, tools for data collection, research approach, data analysis, and the ethical considerations.

#### **3.2 RESEARCH APPROACH AND DESIGN**

According to McMillan and Schumacher (2010, p.20), research design entails procedures followed in conducting a study, which includes all aspects of when, from whom the data will be collected, and under what conditions will the data be obtained for the research study. The research design indicates the plan and procedure to be followed and how the entire research is set up, the subjects, and the methods of data collection to respond to the research questions. This study employs a qualitative research approach because it aimed to explore the role of TVET college management in utilising learning management systems at a single research site.

The qualitative approach which resonates throughout this study involves an investigation of a research interest in the education field. The qualitative approach does not attempt to test hypotheses, rather it seeks to gain an in-depth understanding of the phenomenon. This approach is applied “to uncover trends, thoughts and opinion, usually allowing the researcher to dive deeper into the research problem” (Franzo, 2016, p.33). Moreover, “the qualitative approach is applied to understand the experiences and situations of individuals within their workplace or communities” (Van Zyl, 2014, p.40) which allows the researcher to “access the thoughts and feelings of the participants regarding their experiences in a natural setting” (Khan, 2014, p.289). It is also used to describe components of the issue under investigation,

assess factors that connect with one another, and determine cause-and-effect interactions. Accordingly, individual semi-structured interviews were conducted to investigate the roles of TVET college management regarding the usage of LMSs at their institutions through participants' articulations. Post the interviews, the participants' views and responses are interpreted and analysed.

Interviews are conducted to elicit information through pre-planned open-ended questions involving selected participants. Since an interview is a spontaneous data collection tool, it facilitates accurate representations or accounts of people's behaviours, belief systems, capabilities, thoughts, and knowledge of a specific topic or issue under investigation. Additionally, interviews assist in realising the researcher's intention, which in this study is to allow college management (campus managers) to evaluate their role concerning the usage of LMSs in TVET colleges. In other words, the qualitative approach fosters the understanding of human interactions by dissecting relevant information. Also, to work towards the effective usage of LMSs at TVET colleges, lecturers and students' attitudes need to be analysed. This study followed the case study research design by applying a methodology guided by the research problem, research questions, the aim, and objectives of the study.

According to Creswell (2013), a case study design investigates real-life issues, modern confined systems, or several confined systems over a certain period by using appropriate data generation techniques and an incisive analysis of collected information. This implies that case study research which has been used to understand and investigate real-life issues in their natural world settings, which allows the researcher to scrutinise data from participants thoroughly.

Additionally, Zainal (2007) explains that a case study investigates real-life phenomena by analysing conditions and occasions that are specified and controlled, including how they are connected. The case study design selects a particular sized geographical area with limited participants to serve as subjects. As such, this study explored the role of TVET college management concerning the utilisation of LMSs which aligns to a qualitative case study design. Hence, the case study approach assisted the researcher to obtain rich information on the role of TVET college management regarding the utilisation of LMSs. In other words, case studies enable the understanding of behavioural patterns of research participants' opinions and experiences with the possibility of eliciting more information about a specific

phenomenon instead of using statistical quantitative methods.

### **3.3 RESEARCH PARADIGM**

Research paradigms are important in explaining reasons for the researcher employing a certain research design. According to Haddadi, Hossein, Johansen and Olsson (2017), a study is dependent on the beliefs of the researcher that guide the interrogation of the problem. Researcher who uses a constructivist paradigm often relies on the views provided to him/her by the research participants during interaction (e.g. interviews). According to Hughes (2010, p.35) a paradigm is “a way of seeing the world that frames a research topic”. In other words, a paradigm influences the way a researchers cogitate about the research topic. In congruence, Willis (2007, p8) defines a paradigm as “a comprehensive belief system, world view, or framework that guides research and practice in a field”. Open-ended questions are formulated by the researcher to be used for an interview that is not “strict” to allow the research participants to “freely express their views when responding to research questions” (Zainal, 2007, p4).

The constructivist paradigm is suited for a qualitative research study because it gives the researcher an understanding of the circumstances of the research participants through personally collecting data. Constructivism holds assumptions that the truth can only unfold from issues when it is experienced by individuals through interacting with participants so that they can better understand the different aspects of their lived-practices and experience better (Amineh & Asl, 2015, p.10). This study is guided by the constructivist paradigm as it allows the researcher to be in contact with the participants so that they can interact directly to fully access background information and current knowledge from the management of a TVET college as their views were fundamental to make- sense of their role in the utilisation of LMSs.

### **3.4 RESEARCH SETTING**

This research study targeted one public TVET college in South Africa in the Free State Province of RSA. The choice of this college was informed by the fact that it had an operational LMS in place, in addition to practical considerations such proximity of the college, obtaining a research permit, willingness of participants, the availability of financial resources, and time considerations.

The study is conducted at 6 of the 8 campuses of a certain TVET college. These campuses are selected so that a variety of campuses are represented. However, the Skills Campus was intentionally omitted because it did not fall under the 'ministerial funded campuses' and therefore its operations were different from the other 7 campuses. It must be noted that one campus manager was constantly unavailable for the interview.

The TVET college where the research was conducted is a public institution which is one of the fifty TVET colleges in South Africa under the DHET. The college registers mostly students across the provinces of Free State and KwaZulu-Natal. The research college was selected because the researcher was able to access the participants easily as she resides in the town where the majority of the college campuses are located.

### **3.5 THE STUDY SAMPLE**

A sample group is described as a portion of a population selected to contribute to the research; therefore, it can be referred to as a portion of a larger population chosen to participate in the research study (Minitab, 2017). The sample consisted of 6 participants in this research from one (1) public South African TVET college. Purposeful sampling was employed such that the sample group was handpicked since their employment status which was central to the study. The participants are also chosen based on their knowledge of the phenomenon, and because they had relevant experience, and an in-depth understanding of the research problem.

#### **3.5.1 Sampling Criteria**

The process of choosing a research sample is essential as it determines the group of potential participants from whom the studies' results will be generated from. The sample population in this study represented the management members who are employed in public TVET campuses. According to Trochim (2006), sampling is the process of selecting segments; for example, people from a population of interest which will assist in generalising results after studying the segments. In this study a sample is taken from a Free State TVET college. The criteria for selecting research participants for this study included:

- 3.5.1.1 An adult older than 18 years;
- 3.5.1.2 Male/Female of any race in a management position at the college;
- 3.5.1.3 Willingness to participate; and

#### 3.5.1.4 Being in mentally sound state to consent to participation.

**Table 3.1:** Number of participants from the TVET college

| <b>Participant's Occupation</b> | <b>Number of Participants</b> |
|---------------------------------|-------------------------------|
| Campus Manager                  | 6                             |
| <b>Total</b>                    | <b>6</b>                      |

Additionally, probability sampling is used in this study which is a technique where samples are gathered involving all individuals in the population with equal chance of being selected. The study uses two sampling methods: convenience and purposive sampling. Convenience sampling is a sampling method used by the researcher for collecting data from people who are easily available and relevant to participate in a study which involved accessing the participants anywhere a researcher can find them (Etikan, 2016). Convenience sampling is the most convenient, cost-effective technique which allowed for accessibility hence it is chosen for this study.

The study also utilises purposive sampling which is the process where the researcher selects units based on the characteristics of the participants, hence the choice of campus managers. Etikan (2016, p.2) confirms that with purposive sampling, the researcher selects participants who are knowledgeable about the research problem. Purposive sampling was used in this study to select campus managers who have characteristics in that they were in a similar line of work who have on-site experience and knowledge of management principles and practices at a TVET college.

In sum, because participants are in management positions at a TVET college, they were selected to participate in the study. Since the campus managers are responsible for management functions of TVET college campuses, they played a crucial role in providing information about campus use of LMSs under their leadership.

### **3.6 POPULATION**

A research population is “the instrumental tools which the researcher uses in collecting the required information from the population such as individuals, groups, organisations and

institutions, social or cultural objects, social actions or interventions” (Bless & Smith, 2006, p.54). Therefore, the research study population is the system where the researcher gets information or events from people who have common interest (Babbie & Mouton, 2001, p.40). This study’s’ population consisted of 6 campus managers from a TVET college who were interviewed.

### **3.7 DATA COLLECTION**

According to McLaughlin (2016), data collection is the process of garnering and collating information according to specific variables in a methodical manner to answer the research questions. This allows an individual to respond to relevant questions such that data can be systematically analysed to produce authentic and reliable results. The data collection process assists researchers to obtain key inputs that are honest and accurate, and not compromised or biased. According to, Tran (2016, p.8) data collection is a “systematic process that is implemented by the researcher to solve a research problem to provide answers to research questions”. Hence, every data collector aims to get valuable information which is then subjected to critical analysis of data, give rise to findings that explain the research problem (Sutton & Austin, 2015).

#### **3.7.1 Data Collection Instrument**

A semi-structured interview is a data collection instrument used for gathering information which may include the awareness of programmes, opinions, attitudes, and needs. Oltmann (2016, p.1), stated that interviews are used commonly in qualitative research approach because they assist in ensuring participants to freely articulate their feelings in their own words. In simple terms, semi-structured interviews are encounters that provide in-depth information sharing between the researcher and the participant which lead to the understanding of participants’ knowledge, perspectives, and experiences. Additionally, semi-structured interview questions assist in prompting discussions and providing the researcher with the opportunity to further explore responses on a given phenomenon. The researcher interacted during contact interviews with TVET college campus managers to access an incisive insight into the research problem by verbatim recording their opinions and experiences.

Semi-structured interviews usually rely on preplanned interview schedules that cover a wide

range of topics upon which research questions are structured. Semi-structured interviews usually do not follow a formal list of close-ended questions but comprises of more open-ended questions that open discussion and probing between the researcher and the participant in order to generate rich in-depth data, clarity, and elaboration. It requires a researcher to have listed pre-planned questions emanating from topics or themes to be asked during the interview, but the questions are flexible as they can be changed or rephrased based on where the interview leads to- this allows for flexibility (Montoya, 2016, p.822).

These data collection instruments help the researcher to access more information on the different experiences and perceptions of TVET college managers. Semi-structured interviews have disadvantages that could potentially affect the study, which include some participants being uncomfortable with being recorded or the participant can express apprehension and thus withhold certain relevant information needed for the study.

Assurance is given to the participants were that their identities would be protected through anonymity and privacy processes such as assigning pseudonyms/codes. The information elicited from interviews assisted the researcher in analysing the role of TVET college management regarding the usage of LMSs. The participant consent form, which included the intention of the research and all other finer details, was disseminated to participants prior to the actual interview to read and then decide to give (signed) permission with the option of the exit clause.

### **3.7.2 Data Collection Procedure**

The interviews are conducted by the researcher with the campus managers at the campuses where they reported for duty. On average twenty minutes was spent to complete each interview. A convenient venue on campus was chosen, and recording facilities were provided after permission was obtained.

### **3.8 DATA ANALYSIS**

The thematic analysis approach is used for data analysis and collection of data. Braun and Clarke (2006, p.82) state that “thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data”. This “thematic” analysis allows for flexibility and has

the potential to provide the research with in-depth, comprehensive data interpretation which will yield quality results. Through thematic analysis the researcher can determine the relationship between concepts in order find contrasts (and similarities) within collected data. This method of analysis allowed for possible association of the different concepts with opinions gathered from participants, therefore data is evaluated which allowed for multiple possibilities for interpretation (Alholjailan, 2012, p.40). A six-step guide provided by Braun and Clark (2006, p.16) was adopted which assisted for data analysis:

- Step 1: Become familiar with the data
- Step 2: Generate initial codes
- Step 3: Search for themes
- Step 4: Review themes
- Step 5: Define themes
- Step 6: Write up

The first step requires the researcher to go through the data with an aim to obtaining a general overview of the collected information. The researcher read, and reread the data to become familiar with it, which made it easier when the steps were followed.

The second step entails drafting notes from the data to depict ideas and opinions extracted from participants' responses. Coding the information in a particular structure was installed for the various relevant concepts that were identified.

Step three involves categorizing the relevant ideas and opinions into themes, and these themes were further categorised according to their similarities and how they related to one another, where those with similar fundamental ideas were placed under one theme. The fourth step, reviews data to check how it connects to the identified themes. The fifth step identified themes from the reviewed data, themes are labelled to make the data more understandable. Lastly, data review is conducted again, and the report of the finding is documented based on the identified themes. The steps are flexible as one can move up and down especially when there's a lot of data to deal with to ensure that no data is missed. Soon after collecting data, it was analysed and presented in Chapter (4).

### **3.9 ETHICAL CONSIDERATIONS**

Expertise, diligence, honesty, and integrity are essential when conducting a research study. It is important to acknowledge the participants' rights. To ensure that good ethics are upheld in this study, participants are notified of the principle of voluntary participation; and that the principles of anonymity, informed consent and secrecy would be practiced and respected.

Written permission to conduct this research was granted (prior to the collection of data) by the DHET, the TVET college head and all campus managers who had to participate in the research. Prior to conducting the research, I requested permission from the University of Free State to conduct the research through its Ethics Committee which administers the University's research by reviewing and approving research to be conducted. I made an online application through the RIMS web page after which the Ethics Committee approved the ethical clearance as it complies with the set guidelines and protects participants.

The participants are made aware prior to the research of the ethical issues involved in participating in the research so that they can give Informed consent which is an important ethical factor when conducting research. Through the Informed consent process the researcher makes the participant aware of the research study they are participating and need to be informed that it is by choice that they participate in the study. Participants were informed about the purpose of the research, the data collection procedures, and knew that there was no monetary gain in participating. The participants have the right to maintain privacy, guarantee their anonymity, guaranteed confidentially and avoiding harm and betrayal. There were also at liberty to exit the research process at any stage without being penalised in any way. They were also notified of the anonymity and secrecy processes to be maintained during the study, and that all information would be electronically stored in a file that is password-protected only to be accessed by the researcher.

### **3.10 CHAPTER SUMMARY**

The chapter provides the research methodology and describes it in detail in this chapter, together with how the research methods. A qualitative research design description, research paradigm, and the research setting is also presented. The study also presents the semi-structured interviews with open-ended questions for data collection. The sample consisted of TVET campus managers. All protocols are observed to conduct the research at TVET

college campuses. Anonymity and confidentiality are observed while administering the interviews and transcribing the data into a report. The data analysis is presented in the next chapter (4).

## **CHAPTER FOUR**

### **DATA PRESENTATION, ANALYSIS, AND DISCUSSION**

#### **4.1 INTRODUCTION**

The data analysis is presented in this chapter and the research findings are discussed. A qualitative research approach is employed to collect and analyse data elicited from TVET college campus managers through interviews as the study aimed to explore the role of TVET college management regarding the utilisation of LMSs. The qualitative approach is used to understand the participants overall views and opinions including their experiences, as they are perceived to have expansive knowledge of practices concerning LMSs utilised at TVET colleges. Individual semi-structured interviews are conducted to understand the roles of TVET college management in the usage of LMSs through the opinions and experiences of participants. These are interpreted and analysed for meaning-making concerning the research phenomenon while providing answering the research questions of this study.

The participants include six (6) campus managers from one TVET college. They were selected since they were in management positions at the TVET college. They thus play an important role in managing campuses under their leadership.

The following objectives are devised in line with the aim of this study:

- To determine what lessons can be learnt from previous and current studies regarding the leadership role played by the TVET college management in the utilisation of LMSs;
- To examine the advantages of the utilization of Learning Management Systems in TVET colleges.
- To analyse participants' views on their role played as members of the TVET college management team in the utilisation of LMSs; and
- To suggest recommendations to enhance the leadership role played by TVET college management in the utilisation of LMSs.

As already noted in chapter 3, this study adopted the six-step guide by Braun and Clark (2006:16) which served as the trajectory for data analysis.

## 4.2 PRESENTATION OF FINDINGS

The research findings are placed under six themes identified from the bank of information elicited from participants which align to the study's research questions. Meeting the ethical requirement is crucial to maintain the confidentiality of participants' identities and information, pseudonyms were assigned (participant A, B, C, D, E and F). After interviews were conducted, and responses recorded and transcribed, themes were emerged as representing the views and understanding of the role of TVET college management in the utilisation of LMS.

### 4.2.1 Role of Campus Managers

The core purpose of TVET college management is to improve technical education and practical training for students to develop their (students') skills and knowledge for various industrial sectors. That is, the goal of TVET colleges is to supply the labour market with competent trained workers (Denhere & Moloi, 2021), therefore, management must ensure that staff and students are adequately supported to improve their knowledge and skills development. Participant A supported this statement by articulating the following:

**Participant A:** *As campus managers, we are responsible for the academic project of the campus, so we are the ones who are overseeing teaching and learning processes on campus, so as such, since the learning management system is actually another method of providing learning to students, our role is still the same. We must ensure that we provide support to both lecturers as well as students in terms of resources.*

In chapter two, one of the guiding theories for this study, the Organizational Change Theory (OCT), advises that organisational performance in terms of innovation is dependent on structural elements such as external environmental features and individual characteristics (see 2.2.2). According to theorists Pettigrew, Ferlie and Mckee (1992), the ability of the public sector to accept or be disposed towards change is determined by policies, managerial support, and a reassuring organisational culture (Batras et al, 2014). In consideration of this theory, if TVET college management supports the staff in the usage of LMS, staff members

will more likely perform better and accept the migration to ICT.

Therefore, the campus manager's role is to ensure that the LMS is used effectively to enhance and support academics. They are required, to apply management strategies that ensure that the colleges provide proper resources and that they be used effectively (see 2.4.2). The South African Government has maintained that TVET colleges be accountable in increasing their efficiency and success rates. Since the Government monitors, evaluates, and audits the performance of TVET colleges, management must install strict controls within these institutions to restrict the resources of the college against misuse or non-use (Sithole, Wissink & Chiwawa, 2022).

In this regard, participants cited varying roles that they play as campus management to ensure that LMS is used efficiently at their campuses. These varying roles have created conflicting priorities for leaders and managers at the TVET colleges regarding the usage of LMS. For example, participant C sees his/her role as that of an overseer of the system where *lecturers are exposed to the system* while participant A indicated that *the basic responsibility was providing support and ensuring that the teaching staff and students use the system efficiently*. The evident lack of clearly demarcated and documented roles creates these competing priorities amongst campus managers which has implications for the adequate implementation of the LMS. When the LMS is not implemented properly, TVET colleges will not fully benefit from its advantages. Before the full implementation of LMS at TVET colleges can occur, these dichotomies need to be clarified so that management becomes clear on what to do in terms of support and the implementation of the LMS. Their role was mentioned in the following excerpt by participant A:

**Participant A:** *Being responsible for the academic project of the campus, overseeing the teaching and learning process, ensuring that lecturers are*

*exposed to the LMS and uploading the necessary learning material onto the system.*

Participant A stated (below) that one of the roles and responsibilities of campus management is to ensure that LMS is implemented efficiently:

**Participant A:** *Encourage the users of the system, lecturers as well as the students to utilise the system to enhance the process of teaching and learning and to ensure that lecturers upload the necessary documents or videos into the system.*

Participant C expressed the following opinion:

**Participant C:** *Just to check with the coordinators of LMS and get feedback on how they are using the system, and to encourage staff by supporting them.*

The above evidence indicates that the role of management in the utilisation of LMS is interpreted differently by participants who have the same job description of ensuring that the LMS is used effectively at TVET colleges.

According to Robertson and Frick (2018), there is an increased call for accountability at several different TVET college levels such as the management of resources (human, physical and financial). Because the Government does not inject sufficient funds into these institutions, management should be accountable for wasteful expenditure, and should ensure that systems such as LMS enhance learning to yield high standards of performance. In other words, due to limited funding, managers should go the extra mile to ensure that resources are used maximally to produce high quality performance. For these demands to be met, there needs to be clear roles documented to assist TVET college management to better manage the utilisation of LMS.

#### **4.2.1.1 Infrastructure and digital resources**

To determine willingness and the level of readiness of an education institution to implement a LMS, we need to determine if equipment used to support digitisation is available (Mbanga & Mtembu, 2020). Ironically, the Covid-19 pandemic exposed the vulnerability of

TVET colleges by promoting the use of e-learning applications. In 2020 some TVET colleges had to cease teaching and learning operations due to the pandemic as they were not prepared and equipped for the digital provision academic learning and skills development which led to the interruption of academic work as they did not have LMS in place. It is clear from the participants' responses that they agreed that the adequate provision of resources has an impact in the effective utilisation of LMS at TVET colleges (See 2.4.1). Participants stated the following in this regard:

**Participant B:** *As campus managers, we need to provide resources in the form of laptops and data. This is to ensure that students and staff can connect to LMS anywhere and at any time.*

**Participant E:** *Ensure that there's WI-FI and network connectivity for students and ensure that the lecturers also have resources and data.*

**Participant F:** *Ensure that lecturers upload materials, ensure that my lecturers have laptops, ensure that coordinators provide workshops to encourage my staff to use LMS to support their contact sessions, ensure that the students have access to WIFI and provide lecturers with data.*

One of the common duties of managers is to encourage staff to perform optimally by supporting them to do so. Therefore, the common element that the participants agreed on was their role of providing support. However, the support that they provide is not the same type, although they are in the same position of management (See 2.7). The common roles cited by the participants include providing support through infrastructure and digital resources such as laptops, data, and Wi-Fi connectivity to staff and students. Participant A reiterated:

**Participant A:** *Support to both lecturers and students in terms of resources, encourage the users of the system, lecturers as well as the students, to utilise the system to enhance the process of teaching and learning.*

Although it has been stated that for LMS to be used efficiently infrastructure and resources need to be provided, the fact remains that one of the challenges of TVET colleges to optimally use the LMS is the lack of or limited availability of appropriate infrastructure and resources. Rural TVET colleges like the one the study was conducted at often have a challenge of not having adequate digital infrastructure and resources. The socio-economic

status of the students who attend these rural colleges prohibits them from purchasing gadgets such as laptops, tablets, and smartphones, therefore making it difficult to access LMS when at home. Participant F expressed the following view:

**Participant F:** *The greatest challenge is non-availability of resources. Yes, we do expect the lecturers to keep on uploading information for students. However, students do not have the resources when they are at home, even sometimes when they are here on campus. The Wi-Fi is not strong enough because this campus is not a WiFi- friendly zone, so students cannot use the WIFI everywhere. The WI-FI here is only restricted to certain areas. Even if the students are in the classrooms, they cannot access the WIFI.*

Participant E confirmed this:

**Participant E:** *Poor infrastructure in terms of ICT use and network connectivity, are problems.*

The TVET colleges are characterised by the critically low availability of ICT infrastructure and resources which poses a challenge for lecturers who cannot use LMSs optimally. The DHET must equip TVET colleges with high-quality digital learning infrastructure and resources for them to use LMS to improve the quality of academics because having LMS allows students to access learning materials at any time which will help improve academic results. The DHET also needs to make an allocation of infrastructure and equipment needed at TVET colleges to support the application of LMS.

#### **4.2.1.2 Training and workshops for TVET lecturers**

The South African Government has encouraged teachers, as well as lecturers across the country, to employ modern technologies for teaching and learning. Literature also indicates the need for lecturers to be trained to use ICTs (see 2.4.1). Lamentably, studies reveal that the DHET has no plans towards the providing TVET lecturers with training workshops to implement digital learning.

It is crucial for DHET to start planning training initiatives for TVET college lecturers for LMS and digital learning (Mbanga & Mtembu, 2020).

Before LMS can be used effectively in TVET colleges, resources must be made available and there must be training and workshops for the lecturers to ensure that they fully understand the system to use it for the betterment of their teaching and learning activities. Most of the participants agreed that training is necessary for lecturers because it allows them to be conversant with the system. Participants A and B emphasised this:

**Participant A:** *The LMS coordinator of the college does provide training for staff members, and there are also coordinators at campuses, and they also get trained. They also conduct in-house training to the staff members.*

**Participant B:** *We provide training through training courses that cover the LMS features and what they can do on the system. We also provide manuals and guides for lecturers.*

This evidence from the above excerpts reveals that training assists lecturers in the smooth operation of the LMS because for lecturers to actively participate in academic processes, they must be trained to acquire the relevant IT skills (See 2.4.1). If lecturers are not technically skilled and trained to operate the LMS, they will struggle to participate fruitfully in the FIR teaching and learning era where technological advancements are fast paced.

#### **4.2.2 Significance of Management Structure**

It is well known that a sound management structure is a requisite in every organisation. Accordingly, organisational success is also determined by the roles and responsibilities that are assigned, and how they are assigned and coordinated amongst the employees, and how they are controlled and communicated among the managers of different hierarchal levels (Singh, 2015). An effective management structure ensures that management and subordinates excel for the success of the organisation.

The management of a TVET college institution involves identifying and defining institutional goals and desired outcomes as per DHET policies to develop

strategic plans to achieve high standards of performance at these institutions. Also, this guides institutions and motivates staff to strive towards best practice. It is therefore important for management to guide staff by ensuring that they constantly use the LMS system to fully achieve the goals that TVET colleges are mandated with by the DHET. The SA Government has advocated that TVET colleges through the National Development Plan (NDP) should have 2.5 million students enrolled in TVET colleges by 2030. Therefore, TVET college management needs to apply their skills and knowledge to prioritise addressing inequality, unemployment, and poverty (Sithole, Wissink & Chiwawa, 2022). This implies that TVET colleges need to be at the forefront of the FIR by introducing and maintaining e-learning systems such as the LMS.

Emanating from the interviews, the significance of a sound management structure is evident in the participants' responses as it ensures that resources to use the LMS are available and are used efficiently by the staff and students. Management is also responsible to support staff so that they can perform their roles effectively, especially in an ever-changing educational environment. This includes LMSs which might not be used as envisaged by the DHET. Participant D expressed the following:

**Participant D:** *Make sure that all lecturers are exposed to LMS. They should get data every month and provide lecturers with templates to prepare lessons they're going to upload onto the system. They have laptops.*

### **4.2.3 Challenges Confronting College Management**

Management faces several challenges regarding the utilisation of LMS to enhance students' academic results. Participants cited difference reasons for these challenges:

#### **4.2.3.1 Reluctance in adopting the LMS**

Lecturers are central to enhance students' academic success. However, participants indicated that lecturers pose a threat to the success of the LMS. In the literature review, it was stated that it is important to have lecturers on board by involving and training them in the process of change which includes using LMS, without which it may pose a threat to the change process (See 2.5). Alarming, lecturers often forget their login details into the system, thus

creating a problem which impedes the process of supporting students. Participants A and C pointed this out:

**Participant A:** *Lecturers forgetting their login details and therefore not being able to access the system.*

**Participants C:** *Lecturers cannot access the system. They struggle to access the system.*

When lecturers cannot access the system, it means they cannot post any student- support material or access students' work submitted via LMS. Two other participants, participants A and F agreed with the sentiments of participant C that lecturers sometimes cannot access the system because they often forget their log-in details. This poses a challenge for management as it obstructs the utilisation of the LMS.

The second challenge facing college management regarding the implementation of LMS is the reluctance of some lecturers to adopt the system (see 2.4.1). This resistance implies that they are not prepared to support the college in applying LMSs. Lecturers who are not ready for change hinder the LMS implementation and its success to support learners to enhance the academic offering processes to attain better academic results. The TAM indicates that technology usage is influenced by an individual's behavioural expectations since behaviour changes a person's worldview, which in turn determines the technology's usefulness. According to TAM, "ease-of-use" and "perceived usefulness" determine whether a lecturer will use the system or not. (Su & Li, 2021). These two factors are influenced by factors such as an individual's' culture or work culture, politics, social factors which include language and skills including facilitating skills and cultural variables external variables. The lecturers are most likely influenced by the fact that in-depth computer skills might be a challenge therefore management should urgently address this matter before expecting lecturers to use the LMS effectively. The college relies on lecturers to implement the LMS system to assist students, in addition to facilitating a smooth college administrative system. Although lecturers were workshopped on the utilisation of LMS, they were not willing to accept changes.

In the literature review (Chapter 2), it is revealed that there is a level of technological skill needed to use LMSs. Additionally, there is a fear of using technology because it is not user-friendly, lecturers do not have a sound knowledge of LMSs, insufficient training, absence of relevant training materials, limited access, and inflexible classroom infrastructure, among others (Hasan & Al-Mamary, 2022).

#### **4.2.3.2 Access to network and to gadgets**

Participants B and E felt that lecturers were doing their best to access the LMS but are hindered by the lack of resources. Participant B indicated (below) that the Wi-Fi functionality and access are problems for lecturers who cannot access the system:

**Participant B:** *Sometimes, if not most of the time, the Wi-Fi is not functioning at all.*

Another challenge relates to students' unaffordability of techno-gadgets and Wi-Fi; for example, gadgets such as laptops to access learning material and other information posted on the college system. Several reasons were cited for this situation which creating a challenge for college management. This view was expressed by most of the participants. Participant B claimed:

**Participant B:** *Students not having the necessary gadgets to access the material uploaded on the system, is a problem to the whole system.*

Furthermore, access to network and Wi-Fi was cited as a challenge. This point is confirmed by participants B, D and E who points out that students can only access LMS while they are at the college. When they are at home, they battle to access the system due to lack of network facilities such as Wi-Fi. This disadvantages students; therefore, their academic performance will not be on par with those who are able to work on the system even when they are home. Participant F pointed out that the poor network connectivity is a problem sometimes experienced on campus. Therefore, the connectivity challenge must be addressed by college managers otherwise it will be a struggle to implement the LMS effectively.

#### 4.2.3.3 Loadshedding

Other participants (A, B, D & F) mention the challenge posed by Eskom's load-shedding implemented to control the use of electricity. This is regarded as a huge problem for college management. During load-shedding lecturers cannot present virtual lectures. Those that are not in class lose out in this case. Participant D and A articulated the following:

**Participant D:** *Loadshedding impacts both lecturers and students in a big way. When the lecturer is prepared to deliver a lecture face-to-face because virtual lessons are not functional during load-shedding, those who are at home suffer.*

Furthermore, during load-shedding, there is no network, and this means lecturers and students alike cannot access the LMS. This point was emphasised by Participant A:

**Participant A:** *During stage 6 load-shedding lectures come to a standstill especially when lectures are disturbed for four hours. This is an external challenge for college management; however, it is serious.*

#### 4.3.3.4 Support Systems for Academics

TVET colleges' mandate is teaching, learning, and training. It is therefore managements' duty to provide proper and efficient support systems for students to excel in their academic performance. Management can render support in various ways to ensure that LMS is used optimally to achieve academic success. Participant A emphasised that systems of support should be in place to ensure that TVET colleges provide quality education. Participant A added:

**Participant A:** *LMS coordinators of colleges must train staff members. There are also coordinators at campuses, and they also get trained. They also come and conduct on-site training for staff members.*

It is crucial to share knowledge and provide training so that everyone can reach the common goal of ensuring that students can access quality education. It is imperative for management to provide ongoing training to support lecturers regarding the LMS system because technology often changes, so one needs to keep abreast of the changes. Only when the lecturers have received intensive training, then they should be able to use the system

efficiently. Participant B indicated the following:

**Participant B:** *We assist, or we provide training for them so that they are able to navigate through the Learning Management System without any hassles; and also, we accommodate them in timetabling. Management also supports the lecturers by providing them with gadgets that will enable them to utilise this system.*

Also, management must oversee that staff members use the different teaching methods such as online learning. Moreover, they need to co-work on timetabling processes that accommodate flexible learning. Participant C explained:

**Participant C:** *We have constant workshops for staff to ensure that staff is able to use the system effectively. The other thing we do is in-house training for lecturers. Like I said we also support our lecturers with laptops and data so that they can access the system anywhere.*

It is evident from the above statements that management is providing some support for academics to use LMSs tools to facilitate the utilisation of this system. Participant E reiterated:

**Participant E:** *I organise training for lecturers and students. I ensure that there's WI-FI and network connectivity for students to access material on the system. I also ensure that the lecturers have resources and data to upload material and conduct classes via LMS.*

The management understands their task to support the usage of LMS to enhance academic performance as they have implemented several support systems to ensure that LMS improved the throughput rate at TVET colleges. Participant A supported this:

**Participant A:** *We must ensure that lecturers upload the necessary documents or videos into the system so that students can access them wherever they are. And the other thing for the lecturers is to make sure that we monitor them so that they can be able to utilise the system, monitor them that they use the system optimally, and basically to give an overall*

*motivation for them to look at the system as another way of improving how we do teaching.*

#### **4.2.4 Improving the LMS**

Participants suggest solutions to circumvent challenges faced at college level regarding the utilisation of LMS – short-term and long-term.

##### **4.2.4.1 Lecturers should attend workshops**

Increasing technology usage in TVET colleges can be achieved if management continue to provide ongoing staff development programmes to capacitate employees to become more techno-savvy with new technologies. Most participants confirmed that continuous training sessions are available for staff to attend; however, management must ensure that staff members attend these workshops. Participant A agreed:

**Participant A:** *The LMS coordinator of the college conducts some training with staff members, and there are also coordinators at campuses who conduct in-house training for staff members.*

According to literature, TVET college lecturers should receive intensive training, not only to gain new knowledge in teaching and learning methods, but also to increase their skills and competencies to align with current technological trends; for example, encouraging them to use LMS interaction tools to improve lesson delivery (Ismail, 2012, p.65).

To fully realise the potential of using LMS effectively, TVET college management must provide intensive support services to users, which will be ongoing and reliable. These support services include a variety of trainings, workshops and several other on-going support services are critical for lecturers to continue using the LMS installed at institutions. (Mtebe, 2015)

##### **4.2.4.2 Management to change lecturers' attitudes**

The mindset of lecturers needs to evolve from the current state of resistance to ensuring that the LMS system is used effectively to yield positive results. Lecturers are

reluctant to implement the system; these attitudes need to change because they stifle the successful utilisation of LMS for students' academic improvement. In this regard, participants felt that lecturers hold more power in the implementation of the LMS, and therefore they should be encouraged to buy into the system to promote its success. Participant B indicated the following:

**Participant B:** *As management, we need to do everything in our power to ensure that lecturers support this system, otherwise we must forget it.*

In chapter 2, the literature review revealed that there are major barriers to e-learning in TVET colleges which lead to minimal and/or inefficient use of technology which hinders academic progress (Aina & Ogegbo, 2020). Additionally, lecturers' resistance to new technologies and change due to their lack of skills in ICT exacerbated the situation. The training for ICT skills was excluded in the training of lecturers during their undergraduate training; or if covered, it was superficial as new technologies were not introduced then.

Importantly, participants suggest that lecturers should be motivated to migrate from the traditional teaching methods at TVET colleges to keep abreast with the modern technological advancements such that students become skilled in technologies when they enter the real-life workplace environment. Participant A commented:

**Participant A:** *Covid-19 taught us that the traditional way of teaching cannot continue alone. We need to augment it with technology. This requires a change in the thinking of lecturers. Lecturers should also stream live classes for absent students - even those who are not able to make to campus on a particular day ... they won't miss any teaching as they would be sent the recorded video-clip.*

**Participant D:** *Lecturers must move out of their comfort zone and embrace technology as a new way of teaching students.*

Therefore, the use of technology is viewed as having the potential to improve the utilisation of LMS within the college which will lead to better academic performance.

#### **4.2.4.3 Incentives for lecturers**

To promote the utilisation of the LMS, the college management needs to incentivise lecturers. Participant F agreed:

**Participant F:** *The college should introduce some incentives to lecturers to effectively and efficiently utilise the system. One way is to ensure that the staff members attend workshops to improve their LMS usage.*

Incentives are viewed as extrinsic motivators to drive lecturers to work diligently at improving the system. The capacity to understand and use the system is important if teaching and learning is to be enhanced. As such, regular workshops to train lecturers on the use of LMS are critical to enhance the capacity of lecturers to effectively utilise the system.

#### **4.2.4.4 Improving infrastructure and human resources**

The internal systems of the college also need to be revised or redesigned. Participants suggested that the internal structures of campuses need to be critically evaluated to make the LMS work. Participant D indicated:

**Participant D:** *A college LMS coordinator, who should be responsible to deal with any challenges that the staff and students have on the system, needs to be appointed.*

The LMS coordinator has the responsibility to manage, assist and solve all the challenges that are experienced by those who utilise the system, both at college and at campus level. This includes assisting students on- and off-campus should they encounter technical hiccups. If such a resource person is not available, challenges will not be properly identified and addressed, therefore there is the need for more than one administrator so that when one is unable to report for work, TVET business can continue. There should also be an appointed and dedicated person to deal with LMS implementation challenges - according to participants, the LMS coordinator can do this with ease.

According to Terreblanche (2017, p.18), TVET colleges' resources are not judiciously appropriated in line with prioritisation principles: more than 60% of resources are 'mismanaged' through ineffective leadership practices. The implementation of LMS

involves prioritising that students and staff have access to the necessary IT equipment, infrastructure, and training. Management must ensure that there are relevant, up-to-date materials for online learning, that LMS is successfully used on campuses to enhance teaching and learning, and that the expert IT staff is employed to support users.

Also, challenges in infrastructure have been in existence for long at HEIs (see 2.4.1), but little has been done to alleviate the problem. The TVET colleges face challenges in providing appropriate infrastructure, upgrading existing materials, and establishing ongoing training programmes that should be already in place. The TVET lecturers need appropriate tools and ongoing training to acquire skills and knowledge to become techno-savvy. Since job market requirements are changing at a rapid rate, it creates a need for TVET colleges to constantly re-develop infrastructures to promote LMS.

#### **4.2.4.5 Monitoring lecturers' access to LMS**

Participants felt that the LMS coordinator should monitor lecturers' access to the system. Participant E stated that every lecturer must access the LMS at least every month. Monitoring access to LMS can accelerate the utilisation of the system. When lecturers realise that they are being monitored, and that there will be a report to be generated indicating the regularity of logins, they may improve on accessing the system regularly. Coupled with access by lecturers, participants also indicated that there is a need to improve on LMS access by students which may assist in improving the utilisation of ICT.

#### **4.2.4.6 Ensuring that students have ICT gadgets to access the system**

Participants felt that facilitating access to 'techno-gadgets' and facilities by students will help them better utilise the system. Participant F emphasised that NSFAS should also assist in this regard by providing laptops. When students own laptops, they will access the system more regularly to complete modular tasks. Secondly, access to campus facilities can mitigate the lack of resources by students because normally accessing the campuses after hours is a problem because of safety issues. The ICT laboratories need to be always opened to students as labs are necessary for research projects being done after-hours. These facilities are equipped to serve the students in their learning and therefore opening them up for students during late hours (under supervision) will improve the utilisation of the LMS. According to Denhere and Moloji (2021), funding remains a major issue at TVET colleges which leads to the lack of relevant infrastructure to offer practical training to enable students to acquire basic computer skills.

A major challenge is to access to computers and the internet in many institutions in Africa which paralyses students' access LMSs. Hence, there are many challenges for establishing appropriate infrastructures, upgrading existing materials, and training programmes for the

implementation of e-learning.

#### 4.2.5 Success of LMS

Despite the many challenges experienced in the usage of the LMS, a few successes have been achieved which serves as a motivation to further develop these systems at TVET colleges so that they can be used optimally. The successes that have been achieved are however still in the infant stages. This is supported by participant A who stated that there are no outstanding successes. This implies that the system still needs to be fully operational to ensure that it satisfies all intended outcomes in terms of support, usage and development. Participants A, D and F agreed that the biggest advantage that lecturers experienced was uploading learning materials onto the system for students to access at any time, such that a student who was unable to attend class can now access the materials online. The system proved to be effective especially during the Covid-19 pandemic when contact classes were suspended, but students were still able to access classes via online platforms. In this regard, participant A stated that lecturers recorded their lessons, uploaded them, and produced slides. Participant F reiterated that success was experienced during the Covid-19 pandemic when students accessed their work online.

In 2020, the introduction of online and blended learning by most HEIs globally, precipitated by the Covid-19 pandemic, saw an increase in the usage of technology- based learning (Denhere & Moloji, 2021) This facilitated online teaching and learning processes to become established as a norm. Prior to the introduction of LMS at TVET colleges, lecturer absenteeism affected contact class lessons such that students would lose academic time which delayed assessment processes. Another success noted by participants was that lecturers could record their lessons and upload them onto the system which assisted students who had missed classes or for students who wanted to refresh their knowledge on a particular lesson. This made learning more accessible to students which improved results. Also, students were able to work multiple times through online subject content which resulted in engaging more with the content to enhance understanding. Participant D supported this:

**Participant D:** *If a lecturer is absent and that lecturer uploaded the lesson, the students can access lesson.*

One of the greatest successes of the system was that students were now able to access their assessment results and final results online without physically coming to the college

which saves on student funds which are already a problem in the TVET sector especially rural colleges. Furthermore, participant A mentioned that lecturers were able to record their lessons and upload their lessons and slides; by doing this the colleges 'go-green' by saving on print-paper.

Technology usage is evolving, and the world progressing towards the FIR, TVET colleges are under pressure to keep up with the global standards in the providing education through innovative methods. Therefore, TVET college management needs to provide more support and resources to ensure that the processes of using LMS is accelerated to achieve the demands of the development goals of the South African Government, DHET which formulated legislation, and relevant policies for public TVET colleges. The South African Government made resources available for TVET colleges to promote institutions to achieve the goals of the National Development Plan [NDP] (Nawi, et al, 2020). However, it was clear that these resources need to be increased and managed properly to achieve the desirable outcomes.

The interviews with all participants revealed that more needs to be done to ensure that colleges become successful in using the LMS as very little success has been recorded.

### **4.3 CHAPTER SUMMARY**

This chapter (4) describes that the main reason for using LMS in TVET colleges which is to ensure that the provision of TVET education is improved. The LMS enhances the level of students' engagement with subject content by facilitating its delivery to ensure that no student is left behind. There is a correlation between the effective usage of the LMS and reluctance of lecturers to use it. The system may not be used effectively or does not produce the necessary results because lecturers are not fully engaging in the system as they should.

Some lecturers displayed some resistance which can be attributed to the incompetence of using the system. As a result, lecturers need to be prepared through training sessions before they can use LMS so that they are aware of what is expected of them. Although training programmes for the usage of LMS have been provided for lecturers, they still are reluctant in using the system, which means that college management needs to intensify training or look for another approach that would encourage lecturers to utilise the system. Using LMS also requires a certain level of computer literacy which lecturers might not have; therefore, a

good starting point is to provide basic computer training for those lecturers who might be struggling. Also, many challenges transpired from the interviews which could be attributed the lack of resources. This needs urgent attention to ensure that TVET colleges are not disadvantaged in the usage of the LMS because it makes teaching and learning easier and more effective because students engage in online activities on the LMS.

Throughout the data analysis process, it was clear that TVET college management was willing to promote the usage of LMS. However, challenges such as infrastructure, upgrading existing materials, equipment, and intensive training need prioritising. Moreover, management must be trained by IT experts to understand how to support lecturers; this can only be achieved when management thoroughly understands its role-functions regarding LMS. It was clear from the interviews that their roles need clarity as there were diverse descriptions enunciated by participants. Moreover, there must be commitment from both the management and the lecturers to realise LMS's full benefits. Before the system is fully implemented, the staff needs to be orientated and prepared so that they thoroughly understand and grasp the benefits of using the LMS.

# **CHAPTER FIVE**

## **SUMMARY, DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 INTRODUCTION**

This chapter presents an overview of the study, together with a short discussion of the major findings which is aligned to the aim, objectives, and research questions. The major findings are also linked with the literature on how college management can provide support to ensure that LMS enriches college performance by engaging students interactively with academic content in obtaining a qualification. Additionally, conclusions are derived, after which recommendations are suggested.

The LMSs transform learning experiences in HEIs. In addition to this benefit, they facilitate teaching-learning during student unrest. Regardless of the benefits of LMS platforms such as Blackboard, the utilisation of LMSs by TVET college students has been mediocre. Research has proven that the usage of LMS is crucial for the academic success rate of students in higher education institutions (Matarirano et al., 2021).

The findings also reveal that computer literacy experience significantly promotes computer self-efficacy and the effective usage of LMS in general. The HEI leadership must prioritise overcoming challenges to increase the rate of acceptance and utilisation of the LMS by lecturers and students. The greatest advantage of LMS is that it ensures that learning is not disturbed by world crisis such as the Covid-19 pandemic as learning is able to continue online. Many researchers agree that LMSs increases student academic engagement which is critical to the academic success of a student which strengthen the status of HEIs. Furthermore, LMSs encourage student engagement practices not only to promote the understanding of course content, but to also network within a wide range of role-players to establish efficient and innovative learning communities.

## **5.2 SUMMARY OF THE STUDY**

The major components which are outlined in the structure of the study are outlined in the first chapter. The study's theoretical framework is discussed in the second chapter, in addition to a literature review. Chapter three deliberates on the qualitative research approach, the design, data collection, sampling, data analysis, trustworthiness, and ethical considerations of the study. Data is analysed in chapter four, and themes from the interviews were discussed. The last chapter (5), a brief discussion of the major findings is provided.

## **5.3 DISCUSSION OF FINDINGS**

### **5.3.1 Role of Campus Managers in the Utilisation of LMS**

In the quest for TVET colleges to move towards FIR, many aspects of their course offering in conjunction with adopting innovative teaching and learning methods to decrease face-to-face contact with students. This needs the proper implementation of LMS. In this regard, managers of TVET colleges must diligently and astutely execute their role-functions to implement LMS successfully.

The study's findings indicate that TVET college management is currently providing support for the utilisation of LMS; however, their roles are not clearly demarcated which might hinder the process of proper implementation, especially where campus management is doubtful about what they are supposed to do to ensure that LMS is used effectively.

The findings of this study indicate that it is the role of TVET college management to ensure that LMS is implemented effectively within TVET colleges to enhance and support teaching and learning, managers, directly or indirectly, must assist students and staff to acquire skills and knowledge of LMS to achieve the prescribed outcomes. Moreover, the pressure exerted on TVET colleges by Government demands accountability to increase LMS efficiency. Regrettably, campus management does not have clear prescribed roles and responsibilities which make it difficult to attain consistency in practice and in policy implementation. This needs to be remedied by top- management and DHET by ensuring that there are carefully documented roles and responsibilities to ensure that campus management know exactly what to do in terms of supporting the usage of LMS at TVET colleges.

The findings reported in chapter (4) suggest that there is limited support for campuses regarding LMS usage at college level; for example, only one LMS administrator is appointed for eight (8) campuses. Therefore, there are concerns about resourcing and personnel capacity for implementing LMS. Also, management must ensure that experienced and competent staff is recruited to ensure that colleges progress in terms of LMS usage and technological advancements to meet FIR standards.

### **5.3.2 Challenges Faced by Management**

Participants identified a few challenges which hindered the full and effective implementation of LMS at colleges. One of the major challenges included the reluctance of lecturers to adapt to and fully utilise the system. This is an area of concern because if the lecturers are not on board, it will be very difficult for the colleges to use the system effectively to reap the benefits of LMS which give students the freedom to engage with study material during their own time, in the comfort of their homes. Students are provided with an opportunity to be better prepared for classroom contact sessions and activities as a result of using LMS as a tool to access information on modules because they received study material prior to coming to class which motivates students to engage in continuous learning. Therefore, the reluctance of lecturers to use LMS directly affects the quality of learning of students, which calls for urgent intervention from the college senior management and the DHET. Moreover, a link can be identified between LMS usage and student academic performance; hence, college management must strategise to devise interventions to deal with this challenge which negatively affects the usage of LMS at TVET colleges. In this regard, management should ensure that the use of LMS should be incorporated in academics in a way that will not discourage or overwhelm students and staff.

Furthermore, resource scarcity is also a challenge that needs the intervention of Government, especially in rural colleges (such as the one under study). The study also found that a conducive environment where resources are readily available is needed to implement LMS fully & smoothly. Adequate resources are needed to disseminate study material posting results online and designing videos of the course content. Using technology in education also helps to create concrete interactions between lecturers and students. Resources such as Wi-Fi, laptops, access to computers rooms, and data provision assist largely in disseminating online study material for students to access at any time. When resources are

readily and timeously available, students can access learning material anywhere at any time without waiting for contact sessions with the lecturer but can continue with their studies outside of the classroom.

### **5.3.3 Lecturer Capacitation**

According to the findings of this study, the reluctance by lecturers to adopt and apply LMS was evident due to largely their lack of technological skills; therefore, there is an urgency for TVET college management to capacitate lecturers in ICT skills to ensure that they are trained to be able to use LMS competently to support academics with the aim of improving academic results. Moreover, TVET lecturers need proper, modern, and available resources such as tools, equipment, and data to keep abreast of technological changing times. Hence, LMS training (and motivation) for lecturers is essential to prevent them from being left behind when new approaches are introduced on the system. Accordingly, the DHET and TVET college management should collaborate to intensify the provision of proper and structured training sessions conducted by experts to capacitate lecturers and students on how to effectively use LMS.

Additionally, there is the necessity for better collaboration between the formal education and training and TVET sectors through assessing the areas of competencies (and skills gaps) currently required to satisfy the requirements of the global labour market. Since the requirements of the current labour market are swiftly evolving, TVET colleges should constantly renew, revamp, and redesign their infrastructure and courses to meet FIR needs which include curriculum changes, lecturers' training, and intensifying market networking, among others. Moreover, TVET institutions must prioritise building their 'lost' credibility through effective and efficient training of their students to promote career opportunities in areas of market demand instead of rolling out programmes that are irrelevant and do not generate employability. In line with this, there should be the provision for intensive training programmes for TVET college lecturers to improve their ICT competencies.

It is important to note that most HEIs are relying heavily on LMSs as international trends call for regular upgrading; hence, the need for TVET college lecturers to upskill their ICT competencies as a matter of urgency. Together with lecturer capacitation and skills development, TVET colleges need to constantly revamp their ICT infrastructure for lecturers to practise their skills by utilising the relevant and most modern infrastructure so that they

can implement and use the LMS effectively. The TVET lecturers can also be assisted through mentorship programmes where innovative leaders who have vast expertise on the LMS can one-on-one guide those lecturers in need. Such leaders can be in-house staff members or external experts such as colleagues from neighbouring institutions.

#### **5.3.4 Devising Policies**

According to Denhere and Moloji (2021), there are policy directives on FIR for TVET colleges issued by DHET; therefore, findings from this study could possibly guide DHET policy formulation regarding infrastructural and technological needs at TVET colleges, especially on how management should direct the effective utilisation of LMS. Furthermore, policies regarding skills training for all users to promote optimal usage of LMS to meet FIR requirements should be designed. A study by the Science and Innovation National Advisory Council (2021) found that the current policies concerning TVET colleges are somewhat obsolete as they are not aligned to foster innovative activities which are hampered by the top-down governance approach which discourages creative and innovative practices. Hence, TVET college management must be better guided via relevant and visionary policies to address the deficiencies in LMS usage and training systems to enable them to plan and deliver relevant training workshops and develop skills programmes for present and future employees to meet the demand for scarce skills in the industrial sector.

Further, TVET colleges must devise policies to prioritise the application of LMS so that when pandemics and natural disasters (e.g. Covid-19 and floods), and protest action, or any unplanned interruptions to teaching and learning arise, academic activities are largely uninterrupted. These policies should also clearly stipulate the support roles that management must play to ensure that LMS is effectively used as this will guarantee student success and prevent frustrations by students and lecturers when they encounter obstacles in using LMSs. This study's findings have important policy implications for the DHET and TVET colleges. They both need to review or renew 'obsolete' policies that will create a renewed environment for the smooth operation of LMS at TVET colleges. These policies will be crucial in providing guidelines and strategies on how LMS should be implemented at these institutions. For example, the University of Ghana and the Kwame Nkrumah University of Science and Technology in Ghana developed policies after much research in 57 HEIs that recognised learning material development as part of promoting LMS success. These policies assisted the institution because upon implementation several faculties started using the system and

members managed to develop academic materials needed to be uploaded onto the LMS. Many TVET colleges in sub-Saharan Africa do not have LMS policies in place and most that do have, have outdated policies (Mtebe & Raisamo, 2014).

For institutions to increase their usage of LMS, Butcher (2011) suggests that the institution should have 4 policies in place and these policies should be reviewed. The policies he suggests should be reviewed include: 1. the “Intellectual Property Rights and Copyright Policy” which will protect the information shared on the LMS and how it should be shared. 2. Human Resource Policy Guidelines, which will deal with the officials that will be using the policies and how they should go about uploading material and using the system as part of their job description, 3. ICT Policy, will cover the rules and guidelines under which the LMS will be used in the IT space and the guidelines on how access and use relevant ICT infrastructure such as the internet to access LSM. 4. The Materials Development and Quality Assurance Policy which ensures the correct selection of the material that will be shared on LMS and its development to ensure that it is quality assured, and copyright cleared. Reviewing these policies will improve the usage of LMS and provide a conducive environment for staff to work in, to be able to develop quality materials that will be uploaded on the LMS (Mtebe, 2015).

### **5.3.5 Access to Technology for LMS**

The TVET college management needs to transition to a bottom-up approach regarding upgrading technology infrastructure by conducting research on what students and staff require for LMS to be used effectively. Management should prioritise infrastructure upgrading to create a conducive teaching-learning ecology which is user-friendly and easily accessible for all users. To assist many students from different financial backgrounds, it is idea to zero-rate the LMS so that they do not need to use and data to access the system. In other words, LMSs used by TVET colleges should be available and free to always access such that users utilise the internet when they are off campus which will make LMS more efficient and effective.

Judging from participants’ responses, it was evident that accessing technology for LMS utilisation was a challenge for TVET colleges - particularly rural TVET colleges. This can be circumvented via astute management strategies that may minimise the challenge.

## 5.4 CONTRIBUTION OF THE STUDY

The study's findings are valuable especially when TVET colleges need to upgrade their structuring and delivery of quality education. Also, in an era of FIR where technology permeates every facet of life, students must be adequately trained to prepare them for the competitive industry especially in modern industries. In this regard, there will be pressure on the TVET sector to ensure that it has the competitive edge in utilising modern state-of-the-art technology (LMS), promote best practice, and design and implement innovative interventions to successfully migrate into the FIR era.

During the data collection stage, it was lamentable that the lack of cooperation from the lecturing staff stifled the adoption and utilisation of the LMS. Not all lecturers were amenable to using the system. This finding demonstrated the need for TVET college management to urgently develop staff on LMS operations on an ongoing basis at a very early stage as this will lead to the smooth operation of TVET campuses. When academic staff from TVET colleges such as the one used in this study, engage in this study, they will understand that LMS is there to make their academic duty easier, and that their reluctance to use this system may be due to a fear of using technology which is something they can overcome with motivation and ongoing training.

Also, since this study explored the role of TVET college management in ensuring that LMS is used effectively, it contributes to new knowledge in the field of education in general, where there is a research gap, specifically the aspects of blended learning and ICT integration in the classroom.

Since research revealed that institutions did not have clear guidelines of what ICT tools to purchase or use in the lecture rooms, the decision was dependent on the budget of each institution (DoE, 2004) which is often insufficient. Hence, TVET college management needs to source external funds for enhancing ICT infrastructure. Also, there are no policies or guidelines that stipulate to direct lecturers to integrate ICT or use LMS in their classrooms; therefore, lecturers could decide whether or not to integrate these systems (Ndlovu, 2021). The skills, knowledge, and experiences of TVET college management are seen as positives to structure common internal policies and guidelines that would promote ICT integration into education.

## 5.5 CONCLUSIONS

The findings of this study emphasise the promotion of student engagement in programmes linked to LMS to enhance the quality of academic performance at TVET colleges. Although there is the reluctance of lecturers to apply LMS, LMS must become embedded at TVET colleges as it undeniably enhances the standard of education at colleges. Some lecturers opted to use the LMS in conjunction traditional teaching because they wanted to use the allocated lecture time maximally. The college management should motivate all lecturers to use LMS as a modern teaching and learning tool to prepare students to compete in global labour markets. In other words, the goal of TVET colleges is to supply the labour market with competent workers who are suitable for workplace demands for the FIR era (Denhere & Moloji, 2020). For TVET college managers to achieve this goal, they must appeal to the DHET and other funders to provide technological and infrastructural support. Since, the preliminary rationale of TVET colleges was to use LMS predominantly to ensure that traditional teaching and learning was supplemented to make academics easily accessible for the students anywhere at any time, TVET college management should have initially supported lecturers in familiarising them on an ongoing basis with fundamental LMS operations.

Further, limited resources inhibit the usage of LMS; therefore, management must ensure that resources are readily available. The reluctance of some lecturers to use LMS indicates that more support is required by management so that lecturers progress up the system so that they can eventually use the LMS with ease. Proper, relevant, and expert facilitation of training sessions and workshops can lead to fruitful outcomes and active participation, not only for lecturers, but also for students who will be disseminated information via ICT platforms. If the TVET college management ensures that LMS is used effectively by all stakeholders, contact lecture sessions will be transformed into stimulating interactional engagement between the lecturer and students, and amongst the students themselves instead of a lecture-centered approach. Because not all information is disseminated during in-class sessions, some information can be uploaded on LMS to allow for after-hours' deliberations to maximise time. Since challenges in the usage of LMS are inevitable, technicians should be on standby to assist when there are technical malfunctions. Lastly, issues such as the resistance of lecturers to use online technologies, lack of technology resources, and restricted student participation are some challenges that TVET management should collaborate on to emerge with plausible solutions.

## **5.6 RECOMMENDATIONS**

Staff development is one of the salient recommendations. While collecting data most participants mentioned the reluctance of lecturers to use the LMS; therefore, it is recommended that college management provide trainings to develop their lecturers on the benefits of the LMS. Together with the workshops that are already being implemented at the different campuses, management must ensure that all lecturers are on board. They should also recruit LMS skilled lecturers, in addition to suggesting to DHET and HEIs that LMS should be included as a core module in pre-service training. Currently, technology is vital specifically for higher education as we live in the FIR, and we cannot ignore the fact that using technology to enhance the quality of education.

Importantly, management must administer consistent support processes to enhance the utilisation of LMS by all users. The DHET should also ensure that intensive training programmes for TVET managers (especially new recruits) so that all TVET structures have the relevant information at their disposal about managing the usage of the systems provided by the DHET. This will capacitate TVET college managers with competencies that foster the implementation of LMS, in addition to astutely managing the usage of LMS at campuses. Lastly, the notion of regularly assessing management's ICT knowledge and skills will lead to the effective support of lecturers and students concerning LMS.

## **5.7 SUGGESTIONS FOR FURTHER RESEARCH**

In-depth research should be conducted to determine why lecturers are so reluctant to use the LMS. This investigation should sample lecturers who are not comfortable with technology, and how they can eradicate their technophobia through 'treatment', without having to compromise the use of LMS. Peer-training and/or mentoring such lecturers will effectively help them to acclimatise to LMS. Also, a comparative study to investigate differences between management and lecturers' views on how to improve the usage of LMS could be conducted to find the best solution to encourage the use of LMS. With equal effort from the management to support staff, and a mindset change by lecturers, a lot can be done to ensure that students receive the best possible learning experience to ensure that TVET colleges improve their academic offerings.

## **5.8 THE STUDY'S LIMITATIONS**

Throughout the research process, several challenges were experienced by the researcher; the first being that the research was limited to one TVET college in the Free State, therefore the circumstances at other colleges were not considered. There is the possibility that the challenges that emanated from this study were unique to this college; hence, no generalisation could be made.

Two of the campus managers who were interviewed were in acting positions, so the question arose whether the outcomes would have been different with more experienced managers. Also, the participants were often busy when I needed to conduct the interviews (according to schedule) which lengthened the duration of the study. It was possible that participants would have provided in-depth information had they not been subjected to the pressure of time-constraints.

## **5.9 CONCLUSION TO THE STUDY**

The study reveals that the usage of LMS in the TVET sector was still a challenge. One of the major reasons for this is the lack of resources for college students and lecturers which impeded the effective use LMS. Since one of the roles for TVET college management was to ensure that LMS is implemented and used efficiently, they were found wanting in their support of LMS. The aim and objectives of the study were achieved, despite challenges. It is envisaged that this investigation motivates all role- players such as the DHET and college management to urgently accelerate processes that enhance LMS to attain best practice, lest TVETs be stuck with the label of being 'second-rate' institutions.

## REFERENCES

Abbas, W. & Asghar, I. 2010. The Role of Leadership in Organizational Change: Relating the Successful Organizational Change with Visionary and Innovative Leadership. [Online]. Available at <https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A326289&dswid=2174>

Adkins, S. S. 2013. The Africa Market for Self-paced eLearning Products and Services: Forecast and Analysis. [Online]. Available at <http://www.ambientinsight.com/Resources/Documents/AmbientInsight-2011-2016-AfricaSelfPaced-eLearning-Market-Abstract.pdf>.

Aina, D. Y. & Ogegbo, A. A. 2020. Investigating TVET College educators' experience while transitioning from the traditional classroom to the virtual classroom during the COVID-19 pandemic. [Online]. Available at <https://www.journals.ifs.ac.za>

Allen, I. E. & Seaman, J. 2012. Conflicted: Faculty and Online Education. [Online]. Available at <https://files.eric.ed.gov/fulltext/ED535214.pdf>

Amineh, R. J., & Asl, H. D. (2015). Review of Constructivism and Social Constructivism. *Journal of Social Sciences, Literature, and Languages*, 1: 9-16. [Online]. Available at <https://www.scirp.org>

Andersson, A. & Grönlund, Å. 2001. A Conceptual Framework for E-Learning in Developing Countries: A Critical Review of Research Challenges. [Online]. Available at <https://www.researchgate.net/>

Akoojee, S., Khan, M. & Letseka, M. 2021. Department of science and innovation in the TVET Colleges: The status of innovation in the TVET Colleges. [Online]. Available at <https://www.dst.gov.za>

Babbie, E. & Mouton. J. 2001. *The practice of social research*. Oxford University Press.

Bacow, L. S., Bowen, W. G., Guthrie, K. M., Long, M. P. & Lack, K. A. 2012b. *Barriers to adoption of on-line learning systems in US higher education*. New York, NY: Ithaka

Balkrishen, P. & Mestry, R. 2016. *The leadership role of campus managers to improve student achievement in colleges*. University of Johannesburg Press.

Baleghi-Zadeh, S., Mohammed-Ayub, A., Mahmud, R. & Daud, S. 2014. The influence of subjective norm on intention-to-use of learning management system among Malaysian higher education students. Vol - 1635 *Journal of AIP Conference Proceedings*. [Online]. Available at <https://www.researchgate.net>

Bankar, S. & Gankar, S. 2013. Employee engagement and change management. *Journal of Commerce and Management Thought*, 4(2): 313-321.

Batras, D., Duff, C. & Smith, B. J. 2014, Organizational change theory: implications for health promotion practice. *Health Promotion International*, 31(1): 231-241.

Bingimlas K. A 2009. Barriers to successful integration of ITC in teaching and learning environments: A review of the literature. *Eurasia Journal of Mathematics, science and technology*, 5(3): 235-245.

Berge, Z. & Clark, T. 2005. *Virtual Schools: Planning for Success*. New York: Teachers College Press.

Bhalalusesa, R., Lukwaro, E. E. & Clemence, M. 2013. Challenges of using e-learning management systems faced by the academic staff in distance-based institutions from developing countries: A case study of the Open University of Tanzania. *Huria Journal of OUT*, 14: 89-110.

Bless, C., Higson-Smith, C. & Kagee, A. 2006. *Fundamentals of Social Research Methods: An African Perspective*. Cape Town: Juta & Company Ltd.

Boling, E. C., Hough, M., Krinsky, H., Saleem, H. & Stevens, M. 2012. Cutting the distance in distance education: Perspectives on what promotes positive, online learning experiences. *The Internet and Higher Education*, 15(2): 118-126.

Braun, V. & Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2): 77-101.

Burton, D. 2000. *Research Training for Social Scientists*. London: Sage.

Chen, Z., Li, Y., Wu, Y. & Luo, J. 2017. The transition from traditional banking to mobile internet finance: an organizational innovation perspective - A comparative study of Citibank and ICBC. *Financial Innovation* 1-16. DOI:10.1186/s40854-017-0062-0.

Chiwawa, N., Sithole, M. D. & Wissink, H. 2022. Enhancing the Management Systems and Structures of Technical Vocational Education and Training Colleges in South Africa. *University of KwaZulu-Natal Administration Publica*. DOI: 10.10520/ejc-adminpub\_v30\_n3\_a7

Cigdem, H. & Topcu, A. 2015. Predictors of instructors' behavioral intention to use learning management systems: A Turkish vocational college example. Volume 52. [Online]. Available at <https://www.sciencedirect.com/science/article/abs/pii/S0747563215004306>

Coşkunçay, D. F. Alkış, N. Özkan-Yıldırım, S. O. 2018. A Structural Model for Students' Adoption of Learning Management Systems: An Empirical Investigation in the Higher Education Context. *Educational Technology & Society*, 21(2). [Online]. Available at <https://www.researchgate.net/publication/315117647>

Creswell, J. W. 2009. *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.) SAGE

Creswell, J. W. 2013. *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.

Creswell, J. W. 2012. *Educational research: Planning, conducting and evaluating qualitative and quantitative research* (4th ed.). Boston: Pearson.

Creswell, J. C. 2014. *Research design, qualitative, quantitative, and mixed methods approaches*. New Dehli: OUP.

Dahlstrom, E. Brooks, D. & Bichsel, J. 2014. *The Current Ecosystem of Learning Management Systems in Higher Education: Student, Faculty, and IT Perspectives*. [Online]. Available at <https://www.researchgate.net/>

Damia, F. Hussain, MAM. Mohamed, H. Mokhtar, MAM. Karim, NA. 2021. Student Satisfaction in Using a Learning Management System (LMS) for Blended Learning Courses for Tertiary Education. *Asian Journal of University Education*, [S.l.], v. 17, n. 4, p. 442-454, nov. 2021. ISSN 2600-9749. [Online]. Available at <https://myjms.mohe.org>

De Smet, C., Bourgonjon, J., De Wever, B., Schellens, T. & Valcke, M. 2012. Researching Instructional Use and the Technology Acceptation of Learning Management Systems by Secondary School Teachers. *Computers & Education*, 58, 688-696. [Online]. DOI: 10.1016/j.compedu.2011.09.013

Denhere, V. & Moloi, T. 2021. *Technologies technological skills & curriculum needs for South African public TVET College students for relevance in 4IR era*. [Online]. Available at <https://www.researchgate.net>

Diem, S., Young, M. D., Welton, A. D., Mansfield, K. C. & Lee, P. L. 2014. The intellectual landscape of critical policy analysis. *International Journal of Qualitative Studies in Education*, 27(9): 1068-1090.

Dube, S. & Scott, E. 2014. An empirical study on the use of the Sakai Learning Management System. In *Proceedings of the e-Skills for Knowledge Production and Innovation Conference*. Cape Town, South Africa. 101-107.

Du Plessis, T. & Mabunda, T. T. 2016. Change management in an academic library in the knowledge economy. *South African Journal of Libraries and Information Science*, 82(1). [Online]. Available at <https://hdl.handle.net/10520/EJC196941>

Etikan, I. 2016. Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, 5.

Ewenstein, B., Smith, W. & Sologar, A. 2015. *Changing change management*.

[Online]. Available at <https://www.mckinsey.com/global-themes/leadership/changing-change-management>.

Findik-Coşkunçay, D. Alkiş, N. & Özkan-Yildirim, S. 2018. A structural model for students'

adoption of learning management systems: An empirical investigation in the higher education context 2018/4/1. *Journal of Educational Technology & Society*, 21(2): 13-27.

Flick, U. 2009. *An introduction to qualitative research* (4th ed.). Sage.

Gautreau, C. 2011. Motivational Factors Affecting the Integration of a Learning Management System by Faculty. *Journal of Educators Online*, 8.

Gamede, B. T., Ajani, O. A. & Afolabi, O. S. 2021. Exploring the Adoption and Usage of Learning Management System as Alternative for Curriculum Delivery in South African Higher Education Institutions during Covid-19 Lockdown. Department of Social Sciences Education, University of Zululand, South Africa. [Online].DOI:10.5430/ijhe.v11n1p71

Glennie, J. 2007. Distance education in South Africa. [Online]. Available at <https://www.cedol.org/wp-content/uploads/2012/02/98-101-2007.pdf>

Graen, G.B. & Uhl-Bien, M. 1995. Relationship-Based Approach to Leadership: Development of Leader-Member Exchange (LMX). In *Theory of Leadership over 25 Years: Applying a Multi-Level MultiDomain Perspective*. Management Department Faculty Publications, 57. [Online]. Available at <https://digitalcommons.unl.edu/managementfacpub/57>

Hasan, Y. & Al-Mamary, S. 2022. Understanding the use of learning management systems by undergraduate university students using the UTAUT model: Credible evidence from Saudi Arabia. *International Journal of Information Management Data Insights*, 2: 2. [Online]. DOI: 10.1016/j.ijime.2022.100092

Harkins, A. M. 2002. *The future of career and technical education in a continuous innovation society*. Columbus, OH: National Dissemination Center for Career and Technical Education. [Online]. Available at [http://136.165.122.102/UserFiles/File/pubs/FutureofCTE\\_HarkinsALL-2.pdf](http://136.165.122.102/UserFiles/File/pubs/FutureofCTE_HarkinsALL-2.pdf)

Hennessey, S., Harrison, D. H. London. E. & Wamakote, L. 2010. Teacher Factors Influencing Classroom Use of ICT in Sub-Saharan Africa. *Itupale Online Journal of African Studies*, 2:39-54. [Online]. Available at

[https://www.academia.edu/3784514/Hennessy\\_etal\\_FINAL](https://www.academia.edu/3784514/Hennessy_etal_FINAL)

Hofmeyr, J. & Vally, Z. 2022. *Towards the professionalisation of TVET lecturers in Johannesburg*. JET Education Services.

Hoyle, J. R., English, F. W. & Steffy, B. E. 2005. *Skills for successful 21<sup>st</sup> century leaders: Standards for peak performers*. Lanham, MD: Rowman & Littlefield.

Hughes, P. 2010. Paradigms, methods and knowledge. In G. MacNaughton, S. Rolfe and I. Siraj-Blatchford (Eds.). *Doing Early Childhood Research* (2nd ed.) Maidenhead: Open University Press.

Isaacs, S. & Hollow D. 2012. The e-Learning Africa 2012 Report. International Conference on Web Engineering, Germany. pp 1-5.9 [Online]. Available at <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2012/05/The-eLearning-Africa-2012-Report.pdf>

Johnson, B. & Christenson, L. 2009. *Educational Research: Quantitative, Qualitative, and Mixed Approaches*. SAGE.

Joyes, C., Rossignoli, S. & Fenyiwa Amonoo-Kuofi, E. 2019. *21st Century Skills: Evidence of issues in definition, demand, and delivery for development contexts* (K4D Helpdesk Report). Brighton, UK: Institute of Development Studies.

Khan, S. 2014. Qualitative research method-phenomenology. *Asian Social Science*, 10(21): 298-310.

Khan, M. S., Khan, I., Siraj-u, D., Ismail, H. M., Khattak, R. & Jan, R. 2015. The impacts of ICT on students' performance: *A Review of Access to information*, 5(1).

Kraak, A. 2016. *Three decades of restructuring in Further Education Colleges divergent outcomes across differing global Vocational Education and Training Systems*. University of Witwatersrand, Centre for Research in Education and Labour.

Levitt, H. M., Creswell, J. W., Josselson, R., Bamber, M., Frost, D. M. & Suarez Orozco,

C. 2018. Journal article reporting standards for qualitative primary, qualitative meta- analytic and mixed methods research in psychology: The APA publications and communications board task force reports. *American Psychological Association*, 73(1): 26-46.

Mabila, J., Gelderblom, H. & Ssemugabi, S. 2014. *Using Eye Tracking to Investigate First Year Students' Digital Proficiency and their use of a Learning Management System in an Open Distance Environment*. Volume 18. [Online]. Available at <https://www.researchgate.net/>

McClary, J. 2013. Factors in high quality distance learning courses. *Online Journal of Distance Learning Administration*, 16(20): 230-256.

McMillan, J. H. & Schumacher, S. 2010. *Research in education: Evidence-based inquiry* (7th ed.). Upper Saddle River, NJ: Pearson Education.

Matarirano, M., Panicker N. R., Jere, A. & Mliwa, A. 2021. External factors affecting blackboard learning management system adoption by students: evidence from a historically disadvantaged higher education institution in SA. *South African Journal of Higher Education*, 35(2). [Online]. Available at <https://www.scielo.org.za>

Mack, N., Woodsong, C., Macqueen, K. M., Guest, G. & Namey, E. 2005. *Qualitative Research Methods: A Data Collector's Field Guide*. Research Triangle Park, NC: Family Health International.

Mafuwane, B. 2012. *The contribution of instructional leadership to learner performance*. [Online]. Available at <https://www.academia.edu>

Marikyan, D. & Papagiannidis, S. 2023. Technology Acceptance Model: A review. In S. Papagiannidis (Ed.). *TheoryHub Book*. [Online]. <http://open.ncl.ac.uk>

Mbanga, N. & Mthembu V. N. 2020. Digital learning: perceptions of lecturers at a technical vocational, education and training college. *South African Journal of Higher Education*, 34(4). [Online]. <https://www.scielo.org.za>

Milan, S. 2020. Transformational Leadership and its Dimensions: Contributions in Organizational Change among Schools. *BSSS Journal of Management*, 11.

Montoya, M. C. 2016. Preparing for interview research: The interview protocols refinement framework. *The Qualitative Report*, 21(5): 811-831.

Mtebe, J.S. 2015. Learning Management System success: Increasing Learning Management System usage in higher education in sub-Saharan Africa. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 11. [Online]. Available at <https://www.researchgate.net/>

Mtebe, J. & Raisamo, R. 2014. Challenges and Instructors' Intention to Adopt and Use Open Educational Resources in Higher Education in Tanzania. *International Review of Research in Open and Distance Learning*, 1.

Nawi, F. A. M., Tambi, A. M. A., Samat, M. F. & Mustapha, W. M. W. 2020. A review on the internal consistency of a scale: the empirical example of the influence of human capital investment on Malcom Baldrige quality principles in TVET institutions. *Asian People Journal (APJ)*, 3(1): 19-29.

Ndlovu, T. G. 2021. Technical and Vocational Education and training students' experience with information and communication technologies integration in their inclusive classrooms. [Online]. Available at <https://www.uir.unisa.ac.za>

Nworie, J. 2012. Applying Leadership Theories to Distance Education Leadership. *Online Journal of Distance Learning Administration*, 15. [Online]. Available at <https://api.semanticscholar.org/CorpusID:153491714>

Nwabude, A. A. R. 2012. How Would Virtual Learning Environment (VLE) Enhance Assessment for Learning Mathematics for the Special Education Needs Students (SENS) in the Secondary Education Sector. Presented at Annual Meeting of the Bulgarian Comparative Education Society 2012. [Online]. Available at <https://www.learntechlib.org/p/194932/>

Obwoye, E. 2016. An Opportunity for Developing Countries Article. *IRA International Journal of Education and Multidisciplinary Studies*. [Online]. Available at <https://www.researchgate.net/publication/304496725> E-Learning in TVET

Oltmann, S. 2016. Qualitative Interviews: A Methodological Discussion of the Interviewer and Participant Contexts. *Forum on Qualitative Social Research*,17.

Oketch, H. A., Njihia J. M. & Wausi, A. N. 2014. E-Learning Readiness Assessment Model in Kenyas' Higher Education Institutions: A Case Study of University of Nairobi. *International Journal of Scientific Knowledge Computing and Information Technology*, 5(6): 29-41.

Padgett, D. K. 2009. Qualitative and Mixed Methods in Social Work Knowledge Development. [Online]. Available at <https://nyuscholars.nyu.edu/en/publications>

Picciano, G. Seanman J. 2007. *Online learning: a survey of U.S. Hunter College and Graduate Center of the City University of New York*. [Online]. Available at <https://files.eric.ed.gov/fulltext/ED530103.pdf>

Prensky, M. 2001. Digital Natives, Digital Immigrants, Part 1. *On The Horizon*, 9: 3-6. [Online]. Available at <http://dx.doi.org/10.1108/10748120110424816>

Price, L. & Kirkwood, A. 2013. Using Technology for Teaching and Learning in Higher Education: A Critical Review of the Role of Evidence in Informing Practice. *Higher Education Research and Development*, 33: 549-564.

Robertson, C. & Frick, L. 2018. Conflicting priorities: the dichotomous roles of leadership and management at TVET colleges. *Journal of Vocational, Adult and Continuing Education and Training*, 1(1). [Online]. Available at <https://hdl.handle.net>

Rogers, D. & Swan, K. 2004. Self-regulated Learning and Internet Searching. *Teachers College Record*, 106(9):1804-1824. [Online]. DOI: 10.1111/j.1467- 9620.2004.00406.x

RSA. Department of Higher Education & Training (DHET). 2009. *Guidelines for good governance practice and governance indicators for councils of South African public higher education institutions*. Pretoria: Government Printer.

RSA. Department of Higher Education & Training (DHET). 2013a. *Policy on professional qualification for lecturers in technical and vocational education and training in South Africa*. Pretoria: Government Printer.

RSA. Department of Higher Education & Training (DHET). 2013b. *White Paper for Post-School education and Training: Building and expanded, effective and integrated post-school system in South Africa*. Pretoria: Government Printer.

Schoonenboom, J. 2014. Using an adapted, task-level technology acceptance model to explain why instructors in higher education intend to use some learning management system tools more than others. *Computers & Education*, 71: 247-256. [Online]. Available at <https://doi.org/10.1016/j.compedu.2013.09.016>

Sithole, M. D., Wissink, H. & Chiwawa, N. 2022. Enhancing the Management Systems and Structures of Technical Vocational Education and Training Colleges in South Africa. [Online]. Available at [https://hdl.handle.net/10520/ejc-adminpub\\_v30\\_n3\\_a7](https://hdl.handle.net/10520/ejc-adminpub_v30_n3_a7)

Sithole, M. D. 2019. Enhancing management structure at the TVET colleges: a case study of Umgungundlovu TVET College. Master's Dissertation. University of KwaZulu Natal, Durban.

Spies, R., Grobbelaar, S. & Botha, A. 2020. *Scoping Review of the Application of the Task-Technology Fit Theory, Responsible Design, Implementation and Use of Information and Communication Technology*, 12066. [Online]. Available at <https://www.researchgate.net/>

Su, Y. & Li, M. 2021. *Applying Technology Acceptance Model in Online Entrepreneurship Education for New Entrepreneurs*. Shantou Polytechnic, China. [Online]. DOI: 10.3389/fpsyg.2021.713239. PMID: 34712170; PMCID: PMC8546183.

Spies, R., Grobbelaar, S. & Botha, A. 2020. A Scoping Review of the Application of the Task-Technology Fit Theory. *Responsible Design, Implementation and Use of Information and Communication Technology*. [Online]. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7134276/>

Stouten, J., Rousseau, D. M. & De Cremer, D. 2018. Successful organizational change: Integrating the management practice and scholarly literatures. *The Academy of Management Annals*, 12(2): 752-788.

Sutton, J. & Austin, Z. 2015. *Qualitative Research: Data Collection, Analysis, and*

Management. *The Canadian Journal of Hospital Pharmacy*, 68: 226-231.  
<https://doi.org/10.4212/cjhp.v68i3.1456>

Thlomeedi, T. J. 2018. Assessing the management of TVET Colleges in the development of technical skills in the North-West Province. [Online]. Available at <https://repository.nwu.ac.za/>

Trochim, W. M. K. (2006). *The Qualitative Debate. Research Methods' Knowledge Base*. [Online]. Available at <http://www.socialresearchmethods.net/kb/qualmeth.php>

Tubin, D., Pliskin, N. & Naveh, G. 2012. Student Satisfaction with Learning Management Systems: A lens of critical success factors. *Technology Pedagogy and Education Journal*, 21.

Unwin, T., Kleessen, B. Hollow, D., Williams, J. B., Oloo, L. M., ... & Muianga, X. 2010. Digital learning management systems in Africa: myths and realities. *The Journal of Open, Distance and e-Learning*, 25 (1): 5-23.

Van Zyl, L. E. (2014). *Research methodology for the economic and management science* (8th ed.). Cape Town: Pearson Educational.

Young, M. D. & Diem, S. 2018. *Doing critical policy analysis in education research: An Emerging Paradigm*. [Online]. Available at <https://www.edsco.com>

Veluvali, P. & Suriseti, V. 2021. *Learning Management System for Greater Learner Engagement in Higher Education - A Review Article in Higher Education for the Future*. [Online]. Available at <https://www.researchgate.net/publication/355687887>

Venkatesh, V. M. G., Morris, G. B. & Davis, F. D. 2003. User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27: 425-478.

Van der Bijl, A. & Oosthuizen L. J. 2019. Deficiencies in Technical and Vocational Education and Training lecturer involvement qualifications and its implications in the development of work-related skills. *South African Journal of Higher Education*, 33(3): 205-221.

Wahba, M.M. 2011. Technical and Vocational Education and Training (TVET) Challenges

and Priorities in Developing Countries. [Online]. Available at <https://api.semanticscholar.org/CorpusID:16019539>

Wang, Y. S., Wang, H. Y. & Shee, D. Y. 2007. Measuring e-learning systems success in an organizational context: Scale development and validation. *Computers in Human Behavior*, 23(4): 179-1808. [Online]. Available at <http://linkinghub.elsevier.com/retrieve/pii/S0747563205000890>

Walker, A. & Dimmock, C. 2004. Globalisation and societal culture: Redefining schooling and school leadership in the twenty-first century. *A Journal of Comparative and International Education*, 30(3): 303-312.

Willis, J. W. 2007. *Foundations of qualitative research: Interpretive and critical approaches*. Thousand Oaks, CA: Sage.

Young, M.D & Diem, S. 2017. Doing Critical Policy Analysis in Education Research: An Emerging Paradigm. *Journal of Complementary Research Methods for Educational Leadership and Policy Studies*. [Online]. Available at <https://www.researchgate.net/>

Yalabik, Z., Popaitoon, P., Chowne, J. & Rayton, B. 2013. Work engagement as a mediator between employee attitudes and outcomes. *International Journal of Human Resource Management*, 24.

Yang, H. & Yoo, Y. 2004. It's all about attitude: Revisiting the Technology Acceptance Model. *Journal of Decision Support Systems*, 38.

Zainal, Z. 2007. Case study as a research method. *Journal Kemanusiaan*, 9.

## APPENDICES

### APPENDIX 1: INTRODUCTION AND INTERVIEW SCHEDULE

#### **TITLE OF MY RESEARCH: Exploring the role of Technical Vocational Education and Training college management in utilising learning management systems**

##### **5.9.1.1 Introduction**

You are invited to volunteer as a participant for the research study titled: *Exploring the role of Technical Vocational Education and Training college management in utilising learning management systems*. The purpose of this information brochure is to provide an insight into what the study entails to ensure that you fully understand before volunteering as a participant in the study. Should you have any queries relating to this study, please do not hesitate to contact me at: [mthabelasibongile@gmail.com](mailto:mthabelasibongile@gmail.com) cell:0837645004. You are at liberty to withdraw from the research process at any time, in case you feel uncomfortable to be a participant.

##### **5.9.1.2 The purpose of the study**

The purpose of the study is to explore the efficacy of the leadership role played by the college management in the utilisation of the Learning Management System at a TVET College.

##### **5.9.1.3 What is it expected from me as a researcher?**

If you decide to participate in the study, you will be one of 8 participants. I guarantee your anonymity and privacy of your identity and information throughout the processes of the research. No records will identify you as a participant. There will be no monetary gain from participating in this study.

##### **5.9.1.4 How long will this study take?**

The study will be of a minimum of one year duration on a full-time basis.

##### **5.9.1.5 What are my rights as a participant in this study?**

This is a voluntary exercise, and the outcomes will benefit you as the Campus Manager, the

Learning Management Administrator, and the TVET College in general. You have the right to withdraw at any time without giving any reasons.

**5.9.1.6 Will I be at risk during the study procedures?**

This study and its processes do not involve any physical and/or psychological discomfort; however, as a participant, you are at liberty not to respond to any question you might feel uncomfortable with.

**5.9.1.7 Confidentiality**

Your views and opinions will be treated as highly confidential, and I will not reveal your identity to anyone as pseudonyms will be assigned.

**5.9.1.8 Informed consent to be read and signed by the participant**

The researcher has thoroughly explained to me about the finer details of the study and the importance of being a participant. I have also been made aware that this study will add value to me as a Campus Manager and as an LMS administrator and will also benefit the Department of Higher Education and Training. I have received, read, and understood the written information regarding this study, risks, discomforts, and benefits.

I declare myself ready and prepared to participate in this study, and I fully understand my rights to withdraw from the research unconditionally without stating reasons. I have been given the assurance to ask clarity-seeking questions as and when the need arises.

Participant's Surname & Initials: \_\_

Participant's signature: \_\_\_\_

Researcher's signature: \_\_

## INTERVIEW QUESTIONS

| <b>CAMPUS MANAGERS</b>  |  |
|---|--|
| <b>GUIDING QUESTIONS</b>  | <b>POSSIBLE INTERVIEW QUESTIONS</b>  |
| 1. What role do you play in the utilisation of the LMS?   | <ul style="list-style-type: none"> <li>• What is the significance of management structure of the college in ensuring that the college's Learning Management System (LMS) operates to meet its goals and objectives?</li> </ul> |
| 2. As an official responsible for management of the TVET, what are the tools or systems used within your college to ensure good management practices?         | <ul style="list-style-type: none"> <li>• How do you create strategies to ensure that the utilisation of the LMS gets full support?</li> </ul>  |
| 3. What are the challenges facing management within the TVET college regarding the usage of the college LMS?  | <ul style="list-style-type: none"> <li>• Are there any challenges you experience in supporting the utilisation of the LMS?</li> </ul>  |
| 4. How can the challenges be addressed to improve the usage of the LMS within the TVET college?   | <ul style="list-style-type: none"> <li>• With the challenges in mind, what recommendations do you suggest to deal with such challenges?</li> </ul>   |
| 5. What systems of support have you implemented to support the academic staff in the usage of LMS?  | <ul style="list-style-type: none"> <li>• Are there workshops on LMS usage made available for lecturers to attend? If so, are they effective?</li> </ul>  |
| 6. Are there any successes in the utilisation of the LMS?   | <ul style="list-style-type: none"> <li>• Kindly elaborate on the college's successes in the utilisation of the LMS?</li> <li>• What role did you play as the campus manager?</li> </ul>  |
| 7. Is there any other information you wish to furnish regarding the management structure of the TVET college and the general usage of LMS within the college? |  |

## APPENDIX 2: ETHICS APPROVAL



### GENERAL/HUMAN RESEARCH ETHICS COMMITTEE (GHREC)

06-Oct-2022

Dear Mrs Sibongile Mthabela

#### Application Approved

Research Project Title:

**Exploring the role of technical vocational education and training college management in utilising learning management systems.**

Ethical Clearance number:

**UFS-HSD2022/0816/22**

We are pleased to inform you that your application for ethical clearance has been approved. Your ethical clearance is valid for twelve (12) months from the date of issue. We request that any changes that may take place during the course of your study/research project be submitted to the ethics office to ensure ethical transparency. Furthermore, you are requested to submit the final report of your study/research project to the ethics office. Should you require more time to complete this research, please apply for an extension. Thank you for submitting your proposal for ethical clearance; we wish you the best of luck and success with your research.

Yours sincerely

**Dr Adri Du Plessis**

**Chairperson: General/Human Research Ethics Committee**

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## APPENDIX 3: TITLE REGISTRATION



### GENERAL/HUMAN RESEARCH ETHICS COMMITTEE (GHREC)

06-Oct-2022

Dear Mrs Sibongile Mthabela SM

#### Ethics Committee feedback

Research Project Title:

**Exploring the role of technical vocational education and training college management in utilising learning management systems.**

With reference to your application for ethical clearance for your research: Find attached the letter and decision from the GHREC meeting.

If you need to do modifications or respond to conditional approval:

[Click HERE to open the manual](#)

Ethics Admin

205 Nelson Mandela  
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## APPENDIX 4: LANGUAGE EDITING CERTIFICATE

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**PROFESSIONAL  
LANGUAGE  
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Brian Naidoo (BA Hons English; BA Hons TESOL; BEd Hons.  
BA- English major; Univ. Dip. in Ed.[English special];UCT Cert.in  
Legal and Business Writing; UCT Cert. in Copy-Editing; MA coursework in Research, UFS. Assessor's Cert. UFS. Unisa  
Counselling Certificate., Evaluator of Schools for Umalusi.

**SPECIALISING IN THE LANGUAGE EDITING OF THESES, DISSERTATIONS,  
JOURNAL ARTICLES, PROPOSALS, POLICIES AND PUBLICATIONS**

CERTIFICATE FOR LANGUAGE EDITING A MASTER'S DISSERTATION

EXPLORING THE ROLE OF TECHNICAL VOCATIONAL EDUCATION AND TRAINING COLLEGE MANAGEMENT IN THE  
UTILISATION OF LEARNING MANAGEMENT SYSTEMS

**S. M. Mthabela**  
**Master's in Education**  
**UNIVERSITY OF THE FREE STATE**

TO WHOM IT MAY CONCERN

This certificate confirms that the above-mentioned student submitted her draft master's dissertation to me for language-editing. I make no claim as to the accuracy of the research content. The text, as edited by me, is grammatically correct. After completion of the language editing, the student has the option to accept or reject suggestions/changes prior to re-submission to the supervisor.

*B. Naidoo* ID: 5606255134081 DATE: 09/01/2023

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**THANK YOU FOR YOUR SUPPORT**