EDUCATORS' USE OF A DIGITAL CONTENT PLATFORM IN ACCOUNTING TO IMPROVE LEARNER PERFORMANCE IN GAUTENG

by

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DECLARATION

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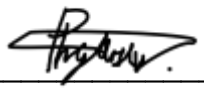
I, **MATEPE PHYLLISTUS RASEALA**, declare that the above dissertation is my own work and that all the sources used or quoted have been indicated and acknowledged by means of complete references.

I further declare that the originality of my work has been submitted to checking software and that it falls within the accepted requirements for originality.

I declare that this work has been previously submitted for examination at the University of South Africa for another qualification or at any other higher education institution.



16 February 2024

DEDICATION

This mini-dissertation is dedicated to the following special people in my life:

- My father, Mapolanka Klaas Raseala for being an aspiration and believing in me.
- My mother, Raisibe Mary Raseala, for being supportive in everything I do.
- To my children, Kutlwano, and Kananelo Raseala, for being my number one reason to excel in life.

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ABSTRACT

The research in this mini dissertation investigated the educators' use of the digital content platform in Accounting to improve learner performance in Gauteng. Educators using the Gauteng Department of Education (GDE) digital content platform in six complete Information and communication technology (ICT) schools in Ekurhuleni North presented the phenomenological research study. This limited-scope study adopted a qualitative research approach. The Technological Pedagogical and Content Knowledge (TPACK) framework guided the research and analysis while understanding the concepts. The study first conducted an online questionnaire completed by six participants through Google Forms. Afterwards, a non-participant observation occurred in the six ICT schools, where an additional six educators participated in the study. Twelve individuals therefore participated in this study. The participants that participated in the research are all qualified educators that specialise in teaching Accounting in the FET phase. Responses were analysed using participants' characteristics, such as gender, age, number of years using the GDE digital content platform, and years teaching Accounting. A checklist was used to analyse the participants characteristics. The limited-scope study established that the GDE digital content platform assisted educators in teaching using this learning management system (LMS). It also saved them time as e-books and lesson plans were readily available. Learners interacted more effectively when they were taught using this LMS. The research findings indicate that educator-participants responded positively to the learning management system (LMS), recognising its potential for significantly improving learner performance. This innovative approach to teaching and learning was well-received. Educators actively used platforms, such as Siyavula, Google Classroom, and WhatsApp to facilitate teaching and information sharing. A decrease in learners taking Accounting encouraged the participants to use more teaching techniques and move away from the basic textbook use in the classroom. Based on the findings, several recommendations emerge. This includes the ICT department within the Gauteng Department of Education, should encourage educators to use the GDE digital content platform effectively. This could be achieved through regular workshops, ideally conducted once per term. Educators, especially novices

who are less comfortable with technology, should support each other in adopting the LMS. ICT committees in schools should proactively update their ICT policies to keep pace with technological advancements. In summary, embracing technology in education requires collaboration, training, and policy adjustments to ensure effective implementation.

Keywords: information and communication technology (ICT), Gauteng Department of Education (GDE) digital content platform, learning management system (LMS), Technological Pedagogical and Content Knowledge (TPACK), Accounting educators

OPSOMMING

In hierdie mini-verhandeling het die navorser onderwysers se gebruik van ’n digitale inhoudsplatform in Rekeningkunde gebruik om leerderprestasie in Gauteng te verbeter. Onderwysers wat die Gautengse Departement van Onderwys se digitale inhoudsplatform gebruik in ses Inligtings- en Kommunikasietegnologie-skole (IKTskole) in Ekurhuleni Noord, het aan hierdie fenomenologiese navorsing deelgeneem.

Die studie met ’n beperkte omvang het ’n kwalitatiewe navorsingsbenadering aangeneem, terwyl die Tegnologiese, Pedagogiese en Inhoudskennis-raamwerk (*TPACK framework*) die navorsing en ontleding gelei het. Die navorser het ’n aanlyn vraelys opgestel wat ses deelnemers deur Google Forms voltooi het. Dit is gevolg deur nie-deelnemerwaarneming wat plaasgevind het by die ses geïdentifiseerde skole waar ses addisionele onderwysers deelgeneem het (n = 12). Die deelnemers se reaksies is ontleed deur te fokus op eienskappe soos hulle geslag, ouderdom, aantal jare wat hulle die Gautengse Departement van Onderwys se digitale inhoudsplatform gebruik, en die aantal jare wat hulle Rekeningkunde onderrig. Die navorsing het getoon dat die inhoudsplatform onderwysers gehelp het om deur hierdie leerbestuurstelsel te onderrig. Dit het hulle ook tyd gespaar, aangesien e-boeke en lesplanne maklik beskikbaar was. Leerders het na bewering meer doeltreffend op mekaar gereageer wanneer hulle onderrig is deur hierdie stelsel. Die navorsing se bevindings het gedui dat die onderwyserdeelnemers positief gereageer het op die leerbestuurstelsel, en die potensiaal daarvan erken het om leerders se prestasie beduidend te verbeter. Hierdie innoverende benadering om te onderrig en te leer is goed ontvang. Die deelnemende onderwysers het platforms soos Siyavula, Google Classroom en WhatsApp aktief gebruik om onderwys en die deel van inligting te fasiliteer. Verskeie aanbevelings het aan die lig gekom gebaseer op die bevindings. Dit het ingesluit dat die IKT-departement in die Gautengse Departement van Onderwys onderwysers moet aanmoedig om die Gautengse Departement van Onderwys se digitale inhoudsplatform doeltreffend te gebruik, wat bereik kan word deur gereelde werksessies (ideaal gesproke eenkeer per kwartaal). Onderwysers – veral nuwelinge wat minder gemaklik met tegnologie is – moet mekaar ondersteun

om die leerbestuurstelsel te gebruik. IKT-komitees in skole moet hulle IKT-beleid proaktief hersien om tred te hou met tegnologiese vooruitgang. Om tegnologie in onderwys aan te neem vereis samewerking, opleiding en beleidswysigings om doeltreffende implementering te verseker.

Sleutelwoorde: Rekeningkunde-onderwysers, Gautengse Departement van Onderwys se digitale inhoudsplatform, inligtings- en kommunikasietegnologie (IKT), leerbestuurstelsel, Tegnologiese, Pedagogiese en Inhoudskennis

TSHOBOKANYO

Mo tlhamong e khutshwane e, modiradipatlisiso o batlisisitse ka tiriso ya barutabana ya tshedimosetso ya dijithale mo go ruteng Palotlotlo, go ka tokafatsa maduo mo Gauteng. Barutabana ba ba dirisang tshedimosetso ya dijithale ya Lefapha la Thuto la Gauteng (GDE) mo dikolong di le thataro tsa Thekenoloji ya Tshedimosetso le Tlhaeletsano (ICT) kwa Bokone jwa Ekurhuleni, ba tsere karolo mo patlisisong e e gakgamatsang e. Patlisiso ya mothamo o o lekanyeditsweng e, e dirisitse mokgwa wa patlisiso wa khwaletheithifi mme fa letlhomeso la Mokgwa wa go ruta wa Thekenoloji le Kitso ya Tshedimosetso (TPACK) lone le kaetse patlisiso le thanolo ya yone. Modiradipatlisiso o dirile dipotsopatlisiso tsa mo mafaratlhatlheng, tseo batsayakarolo ba barataro ba di tladitseng ka go dirisa Google Forms. Se se latelang ke gore ga go temogo e e diragetseng mo bao ba sa tsayang karolo kwa dikolong di le thataro tse di supilweng, koo barutabana ba bangwe ba barataro ba tsereng karolo le bone (n = 12). Dikarabo tsa batsayakarolo di ne tsa ranolwa ka go tsepamisa mogopolo mo dibopegong jaaka bong, dingwaga, palo ya dingwaga ka go dirisa tshedimosetso ya dijithale ya GDE, gammogo le dingwaga tsa go ruta Palotlotlo. Patlisiso e fitlhetse gore tshedimosetso ya dijithale ya GDE e thusitse barutabana ka go ruta ka mokgwa wa thulaganyo ya botsamaisi jwa go ithuta (LMS). Mokgwa o, o ba boloketse le nako ka ntlha ya gore dibuka tsa seeleketoroniki le dithuto di ne di fitlhelega bonolo. Baithuti bone ba fitlhetswe fa ba tsaya karolo e e tseneletseng fa go diriswa mokgwa o wa go ruta o. Diphitlhelelo tsa patlisiso di supile fa batsayakarolo ba barutabana ba amogetse LMS ka diatla tse di phuthulogileng, ebile gape ba lemoga le bokgoni jwa go tokafatsa maduo a baithuti segolo. Mokgwa o wa tlhamoseŝwa wa go ruta le go ithuta o amogetswe sentle. Barutabana ba ba tsayang karolo ba dirisitse ka mafolofolo manane a thekenoloji jaaka Siyavula, Google Classroom le WhatsApp go ka ruta gammogo le go ka neelana ka tshedimosetso. Go tswa diphitlhelelong, dikatlanegiso tse di mmalwa di dirilwe. Tsone di akaretsa Lefapha la ICT la kwa GDE leo le tlhokang go rotloetsa barutabana go ka dirisa sentle tshedimosetso ya dijithale ya GDE. Se se tla diragala ka tiriso ya dithutano (diwekeshopo) tseo di tla tshwarwang gangwe mo pakeng. Barutabana – bogolojang bao ba ba retelelwang ke go dirisa thekenoloji sentle – ba tshwanetse go tshegetsana mo tirisong ya LMS. Dikomiti tsa ICT tsa dikolo

di tshwanetse tsa ntšhafatsa dipholisi tsa ICT tsa tsone gore di tswelele go nna maleba mo ditlhabololong tsa thekenoloji. Go tlamparela tiriso ya thekenoloji mo thutong go tlhoka tirisanommogo, ikatiso le paakanyo ya dipholisi gammogo le go netefatsa tsenyotirisong e e tlhomameng.

Mafoko a a botlhokwa: Barutapalotlotlo, tshedimosetso ya dijithale ya Lefapha la Thuto la Gauteng (GDE), thekenoloji ya tshedimosetso le tlhaeletsano (ICT), thulaganyo ya botsamaisi jwa go ithuta (LMS), Mokgwa wa go ruta wa Thekenoloji le Kitso ya Tshedimosetso (TPACK)

ABBREVIATIONS AND ACRONYMS

ATP	Annual Teaching Plan
CAPS	Curriculum Assessment Policy Statements
CP	Content platform
DBE	Department of Basic Education
FET	Further education and training
GDE	Gauteng Department of Education
HDMI	High-Definition Multimedia Interface
IMEI	International mobile equipment identity
IT	Information technology
LMS	Learning management system
MEC	Member of the Executive Council
TPACK:	Technology Pedagogical Content Knowledge
PK	Pedagogical Knowledge
POPIA	Protection of Personal Information
SACE	South African Council for educators
TK	Technological knowledge

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CHAPTER 1: ORIENTATION AND BACKGROUND

1.1 INTRODUCTION

Owing to the outbreak of the COVID-19 pandemic in 2020, educators had to use various learning management systems (LMSs) to enable teaching and learning to continue outside the classroom. COVID-19 led to the closure of most schools and universities globally, allowing educators to use LMSs. Alias and Zainuddin (2005) describe an LMS as a web-based framework designed to promote learning as a sustainable process in educational institutions with careful planning, implementation, and updating. The GDE digital content platform is an LMS enabling educators and students to work online and in the classroom. The GDE content platform was introduced in October 2019 before the COVID-19 lockdowns, when it officially launched its digital content and online assessment platform. During COVID-19, Accounting learners accessed the GDE digital content platform on their mini laptops; educators communicated with the learners on the WhatsApp group as to which activities and classwork they should do while at home. This platform aimed to increase access to digital content and enhance opportunities for continuous assessment activities to support curriculum delivery in ICT-enabled schools. The GDE digital content platform (DCP) fosters a collaborative learning experience. Educators and students can actively interact in digital spaces. This can be conducted by students engaging in online quizzes, and educators can present the students' feedback promptly, adding to student satisfaction. Huang and Liaw (2014) indicate that learner satisfaction positively influences learners' intention towards innovations, such as LMS systems.

Information and communication technology (ICT) schools in Gauteng receive the GDE digital content platform on the educators’ and learners’ laptops and smartboards. Learners and educators can access this platform on their smartphones with their login details. Gauteng has 21 ICT schools. The schools enjoy Wi-Fi connectivity, while educators and students have laptops, each classroom has a smartboard with Internet connectivity, and e-books are used for teaching and learning (Gauteng Province

Annual Report 2016-2016:114). An ICT team is stationed at the school premises to aid the educators and learners with the technical glitches experienced daily. A service provider is also available for technical issues the internal team cannot solve. According to the *National Integrated ICT Policy White Paper* (2016), the GDE aims to ensure schools in Gauteng are well-resourced with ICT facilities to promote e-learning and introduce devices and smart software into the classroom. Technology improves teaching quality, facilitates access to learning materials, and supports training for teachers and school administrators.

Educators in ICT schools in Gauteng engage the GDE content platform. The platform has educators' lessons, which assist educators in teaching using digital lessons and e-books that students can access anytime and anywhere. Examination question papers, memorandums, and quizzes are also there, enabling parents to assist their children in preparing for assessments or examinations. Educators can identify which students attempted the quizzes.

1.2 BACKGROUND TO THE RESEARCH

The Gauteng Education Member of the Executive Council (MEC) for Education and Youth Development launched the GDE digital content platform in October 2019. The aim of developing the platform was to provide ongoing learning that can be conducted outside the classroom, presenting learners with an opportunity to access learning material when needed. Using the GDE content platform ensures digital teaching and learning. Regarding Internet-based technologies, LMS technology is one of the most common technological platforms altering distance education delivery (Mohamedbhai, 2011). The GDE content platform enables educators and students to use the system anywhere and anytime. Educators can use information, such as lesson plans and quizzes, from the GDE content platform to facilitate digital teaching and learning in the classroom.

According to Bervell and Arkorful (2020), an LMS has the potential to widen access, reduce cost, and improve the quality of education, assisting institutions to meet the growing student population. The GDE content platform is user-friendly and does not

demand significant data usage for access. Chiu and Ku (2003) explain that enabling conditions, such as Internet availability, technological support, organisational/management support and motivation, tend to enhance individuals' voluntariness towards pursuing innovative technologies. In Gauteng, schools equipped with ICT infrastructure benefit from Wi-Fi connectivity. This allows educators to seamlessly integrate their teaching tools, including laptops and smartboards, using HDMI cables to connect the laptop to the smartboard. The HDMI cable simultaneously transmits digital videos and audio from the laptop to the smartboard.

1.3 PROBLEM STATEMENT

During the COVID-19 lockdowns, schools encountered closures, prompting the exploration of alternative methods for teaching and learning. The Gauteng Department of Education (GDE) digital content platform, operational even before the pandemic, became a valuable resource. Several ICT secondary school educators turned to this platform to ensure that teaching and learning could continue effectively during these challenging times. As per the researcher's experience using the GDE digital content platform, subjects such as mathematics, physical science, life science and geography use the GDE content platform because there are several practical examples, videos, and audio educators can teach. Conversely, subjects such as Accounting, vernacular home languages, and history have minimal practical examples; videos and audio educators can use them as a teaching mechanism.

Fansury, Januarty & Ali Wira Rahman (2020) studied using digital content and whether it can increase student motivation and interest in the material provided. Material should be supplied in the GDE content platform, according to the CAPS (Curriculum Assessment Policy Statements) document. South African Government schools use the CAPS document as a teaching guideline for each subject taught (Department of education, 2021). The document is used to identify and solve problems and decide by using critical and creative thinking. This ensures that learners can apply knowledge and skills in ways that can be meaningful in their own lives. When assessing learning according to the CAPS document, an educator should generate and collect evidence

of achievement, evaluate evidence, record the findings, and use the information to understand and assist the learner's development to improve learning and teaching.

The Employment of Educators Act, 1998 (Act 76 of 1998) governs the professional, moral, and ethical obligations of educators and teachers, directing their overlapping requirements. (Employment of Educators Act; 1998). The CAPS curriculum further aims to promote high-quality education for all. The Act and the South African Council for educators (SACE) regulate the teaching corps. Four CAPS documents are relevant:

1. The Foundation Phase
2. Intermediate Phase
3. Senior Phase
4. The Further Education and Training Phase

The study focused on the Further Education and Training Phase from Grades 10 to 12, as Accounting is conducted in this phase in South African high schools.

This mini dissertation reports on identifying the significance of using the GDE digital content platform. As the GDE digital content platform is one of the e-learning methods adopted in secondary schools, it becomes essential to assess its effect on enhancing learner performance. The specific ways the platform contributes to learning improvement and the valuable insights acquired from educators and Accounting learners remain unclear; therefore, a study to ascertain the effectiveness and utility of the GDE digital content platform was crucial.

1.4 MAIN RESEARCH QUESTION

The subsequent main question is based on the above research problem:

How do educators use a digital content platform to improve learner performance in Accounting in Gauteng?

The following sub-questions are derived from the main research question:

1.5 SUB-QUESTIONS

1. What are educators' actual use of the GDE digital content platform?
2. What are the educators' observations of using the GDE digital content platform?
3. What are the advantages of using the digital content platform in the FET Phase in Accounting?
4. What are the challenges of using the digital content platform in the FET Phase in Accounting?
5. What lessons can be learnt from educators when using the GDE digital content platform to improve learning?

1.6 AIMS AND OBJECTIVES

This study aimed to understand educators' use of a digital content platform in improving learner performance in Accounting in Gauteng.

Following from the aim, the study's objectives were:

1. Determine the educators' observation of using the GDE digital content platform.
2. Determine the advantages of using the digital content platform in Accounting.
3. Establish the challenges of using the digital content platform in Accounting.
4. Determine lessons that can be learnt from educators when using the GDE digital content platform to improve learning.

1.7 THEORETICAL FRAMEWORK

A theoretical framework is a structure holding or supporting a study theory (Swanson, 2013). A theoretical framework comprises the theory or theories expressed by experts in the field into which a researcher plans to research, drawn up to provide a theoretical coat hanger for your data analysis and interpretation of results; therefore, a theoretical framework is a structure summarising concepts and theories developed from previously tested and published knowledge synthesised to provide a theoretical

background or basis for your data analysis and interpretation of the meaning in the research data (Grant, 2014).

The study was structured within the TPACK framework. Mishra and Koehler (2006) introduced TPACK as a framework for conceptualising teacher knowledge needed for appropriately teaching with ICT. This framework applied to this study as a valuable device in examining how integrated technology can seamlessly strengthen instructional strategies and content knowledge in curricula (Brantley, Kinuthia, Shoffner, et al., 2007; Cox & Graham, 2009; Hu & Fyfe, 2010; Hsu, 2012; Koehler & Mishra, 2008; Schmidt, 2009). Technological pedagogical content knowledge refers to the knowledge educators require to integrate technology into their teaching.

According to the TPACK framework, specific technological devices, such as hardware, software applications, and associated information literacy practices, are best used to instruct and guide students towards a better and more robust understanding of the topic (Belo, McKenney, & Voogt, 2016); therefore, this theory aims to support the knowledge of teaching with educational technologies, such as the GDE digital content platform in educators in ICT schools. Teaching can be conducted in various ways; Montero (2001) emphasises that teaching extends beyond the content delivered in the classroom and includes various unseen and less publicly acknowledged educator tasks. These activities encompass planning and assessment; they should be considered when teachers prepare and analyse knowledge. GDE content has folders where learners can choose between reading the theory part of the subject or watching an educational video explaining the topic. The TPACK framework is further discussed in Section 2.2.

1.8 RESEARCH METHODOLOGY

Research is collecting and analysing information to increase the understanding of a topic or issue (Creswell, 2014). According to Johnson, Onwuegbuzie, and Turner (2007), research methodology focuses on questions that call for real-life contextual understandings, multi-level perspectives, and cultural influences. The research

methodology discussion of this study below is structured by referring to the research design, paradigm, approach, and type.

1.8.1 RESEARCH DESIGN

Burns and Grove (2003:195) define a research design as “a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings”. Parahoo (1997:142) describes a research design as “a plan that describes how, when, and where data are to be collected and analysed”. This study involved interviewing educators using the GDE content platform for teaching and learning to determine if the platform improves learner performance.

1.8.1.1 RESEARCH PARADIGM

A paradigm is defined as a comprehensive belief system, world view, or framework guiding research and practice in a field (Williams, 2007:8). According to Kankam (2019), the four most broadly applied paradigms in research are:

- Pragmatism
- Interpretivism
- Positivism
- Post-positivism

The study was conducted within the framework of the interpretive paradigm. The interpretive paradigm was chosen to understand and interpret the research rather than the observer's perspective. This research understands and interprets educators’ perspectives on the GDE digital content platform and the lessons that can be learnt. Interpretivist/constructivist approaches to research have the intention of understanding “the world of human experience” (Cohen & Manion, 1994), suggesting that “reality is socially constructed” (Mertens, 2005, p.12). The interpretivist/constructivist researcher relies on the “participants’ observations of the situation being studied” (Creswell, 2003, p.8) and recognises the influence on the research of their own background and experiences.

1.8.1.2 RESEARCH APPROACH

According to Creswell (2007), the three ways of conducting research are qualitative, quantitative, and mixed methods research. The study focused on the qualitative approach, as the interpretivist paradigm assumes that social reality is not singular or objective but is shaped by human experiences and social contexts. It is, therefore, best studied within its socio-historic context by reconciling the subjective interpretations of its various participants (Pervin & Mokhtar, 2022). Qualitative research relies primarily on non-numeric data, such as interviews and observations (Bhandari,2020).

Qualitative research is a process of exploring and understanding the meaning individuals or groups ascribe to a social or human problem (Creswell, 2009). The research explored the understanding of educators teaching Accounting. The educators using the GDE digital content platform engage in the research to determine if this technique improves learner performance. The research process involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher interpreting the data's meaning.

The final written report has a flexible structure. Those engaging in this form of inquiry support research observation, honouring an inductive style, a focus on individual meaning, and the importance of rendering the complexity of a situation (Creswell, 2007). Qualitative empirical research exposes the contradictory, tangled complexity of real-life experience, which often starkly contrasts neatly packaged theoretical accounts of social change (Gillies & Edwards, 2005). In this research, the participants illustrated how the GDE digital content platform works. This was conducted by the researcher conducting a non-participant observation in the participants' classroom.

1.8.1.3 RESEARCH TYPE

According to Creswell (2007), there are five types of qualitative research:

- Case studies
- Narrative research

- Phenomenological research
- Grounded theory
- Ethnography research

The study implemented phenomenological research as it enables studying the participants' experience when using the GDE content platform to teach and learn. According to Connelly (2010), phenomenology attempts to understand the essence of the shared experience of multiple individuals within a setting. According to Creswell (2014), phenomenology is a qualitative strategy where the researcher identifies the essence of human experiences about a phenomenon as described by participants in a study. Data are usually acquired through in-depth interviews, document analysis, or observation (Taherdoost, 2021). Data were collected through an online questionnaire with primarily open-ended questions and a non-participant observation (Section 3.3 for a detailed description of the research design).

1.8.2 RESEARCH METHODS

Research methods refer to how data are collected and analysed, and the generalisations and representations derived from the data (McMillan & Schumacher, 2006). This section explains how the participants were selected and how data were collected and analysed.

1.8.2.1 SELECTION OF PARTICIPANTS AND SAMPLING

Kothari (2004) define sampling as selecting representative elements from a population that will form the sample. Twelve participants engaged in the study. A sampling frame is a list comprising the units of a population sample.

The study employed purposive sampling. Purposive sampling is used to select participants most inclined to yield appropriate and useful information (Kelly, 2010:317). The study involved 12 educators from four ICT secondary schools in South Africa, in Gauteng in Ekurhuleni North. The selected educators were qualified Accounting educators. The educators must have used the GDE content platform to be chosen in this study. This ensured a compelling study as the researcher collected information

from educators using the platform for teaching Accounting. Educators were observed to determine how they use the platform.

1.8.2.2 DATA COLLECTION

According to Creswell (2014), the data collection steps include setting the boundaries for the study, collecting information through instruments, such as observation and unstructured or semi-structured interviews, documents, and visual material, and establishing the protocol for recording information.

The techniques used in the study were open-ended questionnaires and nonparticipant observation. According to Creswell (2012), a questionnaire is used in a survey design; study participants complete this survey and return it to the researcher.
Observation implies information collection trough the investigator's own observation, further elaborated on in Section 3.4.2.2.

1.8.2.2.1 Open-ended questionnaires

The study employed a survey with open-ended questions that educators responded to using Google Forms. Open-ended questions can be employed to collect information and to motivate participants (Zull, 2016). The study developed research-related questions; participants responded according to their technology teaching. A participant's level of interest and the topic's relevance are crucial for answering openended questions (Geer, 1991; Groves, Presser, & Dipko, 2004; Holland & Christian, 2009). The study chose open-ended questionnaires instead of closed-ended questions that restrict participants to a predetermined set of alternatives (Foddy, 1993:127) (Section 3.4.2.1).

1.8.2.2.2 Non-participant observation

Gorman and Clayton (2005, p. 40). define observation studies as those that "involve the systematic recording of observable phenomena or behavior in a natural setting" The researcher observed the educators while the Accounting lessons occurred in the classroom. As per the research, six participants were observed in the Gauteng schools

using this system. One hour was spent in each class observing the usage of the GDE content platform by the educator.

1.8.2.3 Data analysis

Data analysis in qualitative research encompasses searching and arranging the interview transcripts, identification, inspection, and interpretation of themes from the data (Creswell, 2009). Merriam (1998:178) posits that data analysis is a way of processing data collected so it can be meaningful. Maree (2010:100) concurs that in data analysis, the researcher should summarise common themes and words.

This study employed thematic data analysis. Thematic data analysis is a method for analysing qualitative data that entails searching across a data set to identify, analyse, and report repeated patterns (Braun & Clarke, 2006). Braun and Clarke's (2006) six steps to thematic analysis are:

1. Becoming familiar with the data
2. Generating codes
3. Generating themes
4. Reviewing themes
5. Defining and naming themes
6. Locating exemplars

Thematic analysis is a method for describing data, but it also involves interpretation in selecting codes and constructing themes.

The data were defined, discussed, compared, and combined within the literature review to understand the educator's reflections on using GDE content in a teaching and learning environment and specifically focus on Accounting.

The theoretical framework was used to guide the results through all aspects of teaching and learning incorporated to formulate a conclusion about the topic.

1.9 MEASURES OF TRUSTWORTHINESS

Trustworthiness or rigour of a study refers to the degree of confidence in data, interpretation and methods used to ensure the quality of a study (Pilot & Beck, 2012). Qualitative researchers consider dependability, credibility, transferability, and confirmability as trustworthiness criteria in ensuring the rigour of qualitative findings (Guba, 1981; Schwandt, Lincoln, & Guba, 2007). Credibility is defined as the confidence that can be positioned in the truth of the research findings (Holloway & Wheeler, 2002; Macnee & McCabe, 2008).

Credibility further establishes whether the research findings represent plausible information derived from the participants' original data and is a correct interpretation of the participants' original observations (Graneheim & Lundman, 2004; Lincoln & Guba, 1985). Two data collection instruments were used—the online questionnaire and the non-participant observation. Each participant's identity was held confidential, including the institution where the participants were employed (3.5).

Transferability refers to how much the results of qualitative research can be transferred to other contexts with other participants—it is the interpretive equivalent of generalisability (Bitsch, 2005; Tobin & Begley, 2004).

Confirmability refers to how much the results of an inquiry could be confirmed or corroborated by other researchers (Baxter & Eyles, 1997). According to Bitsch (2005), dependability refers to "the stability of findings over time" (p. 86).

Dependability involves participants evaluating the findings of the interpretation, and the study recommendations to ensure support by the data provided by the study informants (Cohen et al., 2011; Tobin & Begley, 2004). Educators selected for this research were reliable candidates, teaching Accounting using the GDE digital content platform.

1.10 ETHICAL CONSIDERATION

Ethics is defined as a set of principles of right instead of wrong. Paul and Elder (2006) define ethics as concepts and principles that guide determining what behaviour helps or harms sentient creatures. Ethical clearance was requested from UNISA, the Department of Education in Gauteng, and the schools in Ekurhuleni North. Participants identified for the study were issued a communication entailing information about the research and an option to participate. Participants' information is concealed to protect their anonymity and confidentiality while adhering to the Protection of Personal Information Act (POPIA) (3.6).

1.11 KEY CONCEPTS

Some phrases used frequently in this study are defined, enabling an understanding throughout the report.

GDE digital content platform: Gauteng Department of Education Digital Content Platform. This is an LMS that the ICT schools in Gauteng use. The platform was launched in October 2019.

ICT: Information and communications technology. Law, Pelgrum & Plomp (2006) defines ICT as technology used to transmit, store, create, share, or exchange information. Integrating ICTs into teaching and learning encounters obstacles at the classroom level (Ostrowick, 2016).

LMS: Learning management system. Alias and Zainuddin (2005) define an LMS as a web-based framework designed to promote learning as a sustainability process in educational institutions by adequately planning, implementing, and updating it. This study focused on the GDE digital content platform.

CAPS document: Curriculum Assessment and Policy Statement. A policy often outlines a target to be pursued, specifies objectives to be achieved, and stipulates how those goals will be accomplished (Karlsson, 2021). CAPS provides educators

guidelines on what to teach and assess on a subject in line. This study focused on Accounting in the secondary phase.

TPACK: Technology Pedagogical Content Knowledge. Punya Mishra and Matthew J. Koehler of Michigan State University introduced the TPACK framework in 2006 (Technological pedagogical content knowledge: A framework for teacher knowledge) Mishra & Koehler (2009). This is a framework for understanding teacher knowledge required for effective technology integration. The theoretical framework is used in this research.

PCK: Pedagogical content knowledge. Lee Shulman developed the concept in the mid-1980s (Voogt & McKenney, 2016). When introducing educational technology in classrooms, researchers noticed that the PCK framework did not explicitly support technology. According to Malik, Rohendi, and Widiaty (2019), pedagogical content knowledge (PCK) refers to understanding how to effectively present and structure subject matter so that it is comprehensible to learners. Attempts were made to adapt the previous PCK framework (Gur & Karamete, 2015). Some, such as TPACK, offer adequate support for technology and provide more opportunities to observe how technology integration occurs.

COVID-19: Coronavirus. It is reported as a highly contagious respiratory disease. The first confirmed COVID-19 case in South Africa was reported on 5 March 2020. The World Health Organization (WHO) declared a pandemic on 12 March 2020. Though COVID-19 has had a severe influence on normal educational progress, universities may take this unforeseen opportunity to detect deficiencies and speed up reform of online education through innovative course content, state-of-the-art technology, and efficient management (Sun, Tang, & Zuo, 2020).

DBE: Department of Basic Education. It oversees primary and secondary schools in South Africa. The Department of Basic Education envisions a South Africa where all citizens can access lifelong learning, education, and training opportunities. This commitment aims to enhance the quality of life and foster a peaceful, prosperous, and democratic South Africa. The research focused on Gauteng ICT secondary schools.

LTSM: Learning and teaching support material. These are materials facilitating learning, including electronic material. Learners in ICT Secondary Schools use laptops. The Department of Basic Education website embraces digital content promoting e-learning (Department of Basic Education, 2021)

1.12 CONCLUSION

From the aforementioned information, this chapter details the topic statement to determine the significance of the GDE content platform in Gauteng high schools. The study observed the educators teaching Accounting; an online questionnaire was shared with participants. It also describes the research problem, questions, and objectives. The research topic, questions, methodology, trustworthiness, ethical considerations, and limitations are included. Finally, critical concepts used in the study are explained in further detail.

The subsequent chapter discusses the theories supporting the study and relevant literature associated with the research.

CHAPTER 2: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 INTRODUCTION

The preceding chapter presents the study background, emphasising significant factors for the study motivation. The previous chapter includes the research design, research paradigm, research approach and research type. This chapter includes the integrated theoretical framework and the literature review. This chapter explores how educators embraced innovative teaching methods and adapted to classroom learning. The influence of technology on education and its potential to enhance learner performance are explored. The literature review concept is presented, encompassing the review process and the resulting output.

According to Creswell (2005), a literature review is a written summary of journal articles, books and other documents describing the past and current information state, organises the literature into topics and documents a need for a proposed study. Cooper (1998) remarks that the product of a literature review depends on the research's goal and focus and defines synthesis reviews as literature reviews that attempt to summarise and draw conclusions from past empirical research to determine what issues have yet to be resolved. Fink (2019) defines a literature review as a systematic review of data that identifies, evaluates, and synthesises for explicit presentation. Lambert, Jacobsen & Brown (2012) described a literature review as a critical analysis of what is known about the study topic, the related themes, and the perspectives expressed regarding the subject.

The CAPS document and the Annual Teaching Plan (ATP) form part of the pivotal documents that present the past and current information state where ICT is involved, discussed in this chapter.

This chapter first evaluates the Technological Pedagogical and Content Knowledge framework (TPACK), the theoretical framework supporting this study.

2.2 THEORETICAL FRAMEWORK

According to Kivunja (2018), a theoretical framework is a structure summarising concepts and theories developed from previously tested and published knowledge. This helps the researcher to have a theoretical background or basis for data analysis and interpretation of the meaning of the research data. The TPACK is the framework used in this study. The study established this framework to be applicable to this study because TPACK is a valuable knowledge that educators using ICT to teach can integrate technology in their teaching practice.

2.2.1 The Technological Pedagogical and Content Knowledge framework

The TPACK framework (2006) developed by Matthew Koehler and Punya Mishra builds on Lee Shulman's (1986) construct of PCK to include technology knowledge.

According to Gur and Karamete (2015), TPACK extends the PCK, defined as a systematic approach to joining technical expertise in teaching with pedagogical content knowledge. TPACK is an emergent model resulting from the intersection of technology, pedagogy, and content. PCK is a concept that represents the knowledge that teachers use in the teaching process (Kind; 2009). According to the TPACK framework, specific technological devices, such as hardware, software applications, and associated information literacy practices, are best used to instruct and guide students towards a better and more robust understanding of the topic (Kurt S. 2018). This theory aims to identify the usefulness of the GDE digital content platform as an educational device used by educators in ICT schools.

Artista & Montero (2001) emphasises that teaching extends beyond the content delivered in the classroom includes various unseen and less publicly acknowledged tasks conducted by educators and encompasses several less visible and less socially recognised activities performed in an empty room. These activities encompass planning and assessment, and they should be considered when teachers prepare and analyse knowledge. The GDE content has folders where learners can choose whether to read the theory part of the subject or watch an educational video as part of their learning process.

The subsequent section will elucidate the TPACK framework in teaching and learning.

2.2.2 TPACK in teaching and learning

Mishra and Koehler (2006) created the TPACK model owing to the lack of other adequate theories to explain and guide the effective integration of technology in the classroom. Millennial students, influenced by technology (Lemley, Schumacher, & Vesey, 2014; Elam, Stratton, & Gibson, 2007), are immersed in its presence and actively learn through its use. Consequently, educators can no longer rely solely on traditional chalk-and-talk teaching methods. In the 21st century, teachers must adeptly integrate technology into their pedagogy, aligning with Mishra and Koehler’s (2006) TPACK framework.

Delgado (2016) asserts that using technology in learning provides opportunities for students to establish their personal skills, and the levels of tasks that students can do with technology allow the students to work by themselves at their own pace. Digital technology will enable students to explore, and it helps them to be more resourceful than before; therefore, teachers need to be creative and shift their roles in teaching since they are no longer the sole providers of information and content. It was established that teachers today are motivated and interested to learn about technology integration owing to its flexibility and autonomy (Delgado, 2016).

Roblyer and Doering (2010) promote self-assessment as a first step for instructional decision-making, where they reflected on their understanding and thinking about teaching with technologies. Mishra, Koehler, Shin, Wolf, and DeSchryver (2011) proposed a learning-by-design trajectory to TPACK development through a spiralling of stages of more complex instructional design where TPACK reflection is at the end of the process. Mouza and Wong (2009) propose a TPACK-based case development strategy where teachers learn from their practice. The following section will explore the TPACK framework diagram.

2.2.3 The TPACK framework diagram

The TPACK framework comprises three main domains accompanied by one subdomain. The diagram below illustrates the main domains and the subdomains.

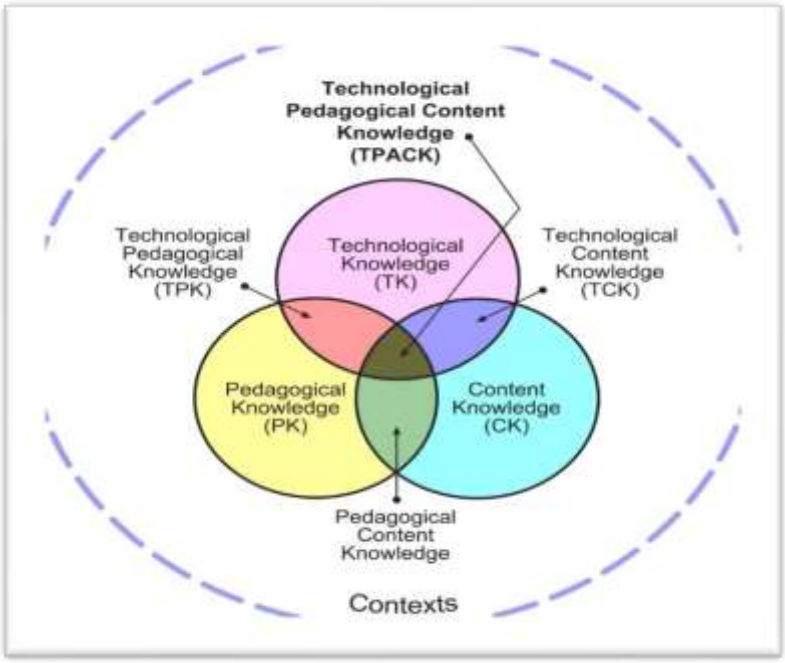

Figure 2.1: Visual representation of the technological, pedagogical, and content knowledge framework (Mishra & Koehler, 2006).

Moreno, Montoro, and Colon (2019) describe the three TPACK domains:

- Pedagogical Knowledge (PK)—refers to the knowledge the teacher possesses regarding pedagogical activities, processes, practices, teaching, and learning methods used in the teaching-learning process, and how they relate to the educational goals. PK also includes the knowledge of techniques and methods that can be employed in the classroom and strategies to evaluate students. Most educators using the GDE digital content platform have received training on using the LMS in the classroom. Refer to Section 4.3.3.1, Subtheme A: Diverse teaching methods.
- Content knowledge (CK)—refers to the content knowledge that the teacher possesses in specific matters or areas that must be taught to the students, including concepts, theories, facts, and procedures. The research is based on participants who teach Accounting. These participants have the CK of their subject and teaching experience. Table 4.1 and Table 4.2 illustrate the number of years the participants have been teaching Accounting.

- Technological knowledge (TK)—refers to the teacher's ability regarding various technologies to develop the teaching practice. It includes, for instance, knowledge of operating systems and hardware, how to install programmes, and how to create documents. It is also essential to learn and adapt to upcoming innovative technologies. Educators using the GDE digital content platform have been exposed to numerous teaching methods with technology. Refer to 4.3.2, Theme 2: The educators' observation of GDE digital content platform use. Niess, Lee, and Sadri (2007) describe a developmental progression in TPACK. The five levels of this progression are explained below.

The five levels of developmental progression are the recognition, accepting, adapting, exploring, and advancing levels (Niess, Lee & Sadri, 2007). The educator considers the GDE digital content platform a device for teaching and learning their content, therefore classified as the **recognition level.** The educator will, consequently, accept teaching and learning their content usings this LMS. This level is, consequently, called the **accepting level.** The educator adapts experiences with learning about the technology within their curriculum for teaching and learning with this LMS. This level is known as the **adapting level**; therefore, the educator actively investigates and explores the curriculum, trying innovative ideas for teaching and learning their curricula using this LMS. This level is known as the **exploring level.** The educator advances the curriculum, integrating learning with and about the GDE digital content platform as learning devices where appropriate, evaluating their learners' knowledge of Accounting within a GDE digital content platform context. This level is the final of the TPACK framework, known as the **advancing level.**

The five TPACK levels were discussed above; the benefits and challenges of the TPACK framework will be further elaborated on below (Figure 2.1).

2.2.4 Benefits and challenges of the TPACK framework

Understanding the advantages and limitations of the TPACK framework is crucial. This framework considers the various knowledge domains required by educators and provides a strategic approach to incorporating educational technology into classroom

teaching. Subject-specific content knowledge (CK) empowers educators to apply effective teaching practices and techniques.

2.2.4.1 Benefits

The benefits of the TPACK framework are elaborated on. The TPACK framework offers teachers a mental framework visualising the complex relationships between their knowledge domains (Kilbane & Milman, 2014). Strategies for planning and implementing educational technology can enable an analysis of a teacher's knowledge and for planning future professional development they require for optimal use of educational technology (Kilbane & Milman, 2014). The TPACK framework provides opportunities for teaching (Bugueño, 2013). First, a significant teaching framework with technology integration requires an understanding of the concepts of technology usage.

Second, it presents pedagogical techniques that use technologies in practical ways to teach subject matter, knowledge of what makes the subject difficult or easy to learn and how technology can help solve problems encountered by students. Finally, it represents knowledge of educators' basic knowledge and theories of epistemology, and knowledge of how technologies can develop existing knowledge and develop a new theory of knowledge or strengthen old ones (Mishra & Koehler, 2006). Technology is observed as a device that helps in the learning process and helps students stay engaged (Bugueño, 2013; Mishra & Koehler, 2006; Waddel, 2015; Mareco, 2017).

This framework, therefore, allows educators to design and implement instruction responsive to the needs of students and can provide educators with a language or common vocabulary for communicating with each other about activities related to technology integration. A team of educators can devise professional development opportunities, create technology, and lesson plans. Educators can develop TPACK by applying instructional design to integrate technology into the teaching and learning process. Technology can create an interactive environment in the classroom as learners can use their laptops and mobile phones to enhance their learning. Although

the TPACK framework has several benefits, it has challenges discussed in the subsequent section.

2.2.4.2 Challenges

The challenges of using the TPACK framework are expected as educators and learners differently perceive technology. The lack of qualified technology educators and technical problems are among the challenges in the TPACK framework. Information technology (IT) literate refers to individuals with the knowledge and skills to use a computer and other related technology (Techopedia,2018). Several educators lack adequate skills in doing online classes and do not have sufficient technical support or the ICT infrastructure to manage the technical challenges; therefore, this could affect the way they teach a subject, therefore affecting the quality of the process. (Akram, Aslam, Saleem, & Parveen, 2021).

Internet connection and technical problems may become a challenge for educators when they rely on the Internet to apply technology in the classroom. With the demand for integrating technology because of the shift of learning modality, educators encountered several challenges, such as unequal distribution of ICT infrastructure, digital literacy and divide, technology cost, and quality of education (Dhawan, 2020). Creating a meaningful task using technology is a challenge for educators applying the TPACK framework, as it requires time to prepare before using technology in the classroom. (Topan & Drajati, 2020).

The crucial function of ICT in education encouraged policymakers in developed and developing countries to amend the ICT policy in their educational systems (Jhurree, 2005) The ICT policies have specific rules and regulations that must be adhered to when introducing ICTs in teaching and learning, and, therefore, relevant educational policies are discussed in the subsequent section.

2.3 EDUCATIONAL POLICY AND PRACTICE

In 1994, South Africa became an inclusive and democratic political system. Three overlapping principles regulate access to education: access without discrimination, physical accessibility concerning distance and safety while travelling to school, and affordability for all (Blignaut & Howie, 2009). Since 2004, *the White Paper on eEducation: Transforming Learning and Teaching through ICTs* (Republic of South Africa, 2004) has functioned as the official governing policy on e-Education in South Africa. This policy "supports larger systematic, pedagogical, curricular, and assessment reforms that will facilitate improved education and improved use of educational resources such as ICT" (Republic of South Africa, 2004, p. 14).

The Department of Education drafted the *Draft White Paper on e-education, transforming learning and teaching through ICT in August 2003*; Professor Kader Asmal was the Minister of Education then (*Draft White Paper on e-education, 2003*). This *White Paper* sets out the government's response to added information and communications technology environment in education. The White Paper represents a new framework for a collaborating government and the private sector in providing ICT in education. The policy relates to this research as it uses the TPACK framework, focusing on the knowledge required by educators for successfully integrating technology in teaching.

The South African Schools Act of 1996 promotes access to education, quality, and democratic governance in compulsory schooling for children aged seven to 15 years to ensure that all learners have access to quality education without discrimination. (South African schools act, 1996). Former South Africa President Nelson Mandela once alleged that education is the great engine of personal development. Through education, the daughter of a peasant can become a doctor; that the son of a mineworker can become the head of the mine; that a child of farm workers can become the president of a great nation. Technology should not supplant teachers in the learning process; rather, it should serve as an avenue for teachers to innovate and enhance their teaching and learning practices (So, 2019).

The GDE aims to ensure schools in Gauteng are well-resourced with ICT facilities to promote e-learning to introduce devices and smart software into the classroom using technology, enhance teaching quality, access materials to engage learners and train educators and school administrators (GDE, 2011).

The National CAPS was introduced in 2012 by the Department of Basic Education (DBE), and is the curriculum used in the South African school system. The National CAPS is defined as a single comprehensive and concise policy document which has replaced the Subject and Learning Area Statements, Learning Programme Guidelines and Subject Assessment Guidelines for the subjects in the National Curriculum Statement Grades R-12 (DBE, 2011e, p. 4). The GDE digital content platform is aligned with the CAPS document. Learning content in the digital content platform is the same as expected in the CAPS document.

This enables educators to use the platform; therefore, the educators' correct teaching material is according to the content that needs to be taught to the learners according to the curriculum. The CAPS document for every subject and every grade encompasses the specific content and assessment practices for each subject (DBE, 2011b). The educators can know what their subject entails and what needs to be assessed with the help of the ATP.

The ATP is laid out by the DBE, providing teachers with guidelines on implementation and the minimum core content and skills to be taught (Department of Basic Education, 2021). The CAPS is the most recent attempt to realise education for all and strengthen the National Curriculum Statement, particularly concerning the quality of teaching and learning (Steyn et al., 2011). UMALUSI, the Council for Quality Assurance in General and Further Education and Training that came into effect in 2008 was tasked by the DBE to ascertain the quality assurance of CAPS (Umalusi, 2019). UMALUSI is constituted by the General and Further Education and Training Quality Assurance Act No 58 of 2001, amended in 2008 (Umalusi, 2019).

The benefits and challenges of the TPACK framework and the educational policy and practice have been discussed. These topics are essential in this study as one needs

to identify the benefits and challenges associated with the GDE digital content platform for improvement to occur. The educational policy forms a guideline where e-learning is accommodated in education as it informs practice.

The following section provides an overview of the processes involved in ICT training and support within schools.

2.3.1 Information and communications technology training and support procedures

Training and support are crucial for educators as they can improve their work performance and become more effective in the workplace. The District Departmental Officials trained educators on how to use the GDE content platform based on the school's ICT Policy implemented by the ICT school committee. The officials also workshopped students, and educators also assisted the students while teaching and learning took place in the classroom. An IT team is stationed in the ICT schools in Gauteng to facilitate the smooth running of using the ICT equipment. Should an educator experience technical glitches with the smartboard or laptop, one of the IT interns will be called in to assist the educator in diagnosing and troubleshooting.

When learners are also experiencing technical glitches, they can report their laptops at the IT office in the morning before school starts, during break time or after school. This is conducted to avoid learners lingering around the school premises, causing disturbance, and missing a lesson. Each IT intern does a weekly round in the classes allocated to them to ensure the smooth running and operation of the smartboards. The intern will use a checklist to assess the level of usage the educator is at. Monthly, the educators are provided an evaluation form to indicate where they require training. A smartboard manual is provided for new educators and student teachers as an induction and orientation to primary usage of the smartboard. The researcher is an ICT co-ordinator at a school, and this procedure is valid. The following section focuses on the ICT security implemented in schools equipped with ICT.

2.3.2 ICT security

New laptops are stored in a vault once they arrive at the schools before they are handed out to the learners. Learners and their parents sign a consent form acknowledging responsibility for the device. Before the learner takes the laptop, the intern will record the international mobile equipment identity (IMEI) and the device's serial numbers; if the device is stolen, it can be reported and traced because the device has a tracker installed. A laptop logbook is created to record faulty, damaged, stolen, lost, replaced, and loaned laptops per learner per grade. This enables the tracking of devices. An alarm and CCTV camera are available where the laptops are stored. Smartboards have tracking software for security purposes.

Each learner will ensure that their device is always safe as their parents ensure the safekeeping of the laptop at home is a consignee of the device. Each learner will use the same laptop until they complete Grade 12. Each year, the laptop will be installed with new e-books for the specific Grade and subjects the learner will be taught. When a learner damages the device, the parent will pay a particular fee for the service provider to fix the device. Should a learner delete an e-book from the device, the parents will be liable to settle the reinstatement of the e-book.

Learners' laptops should only contain educational content shared by educators. If a learner is found with games, images, videos, or music on their laptop, it will be confiscated, and additional disciplinary measures will be implemented. When a learner has lost the device, a GDE 73 Form needs to be filled in, and it also requires a case number that will be obtained from the police station once a case has been opened for the lost or stolen asset (GDE, 2011). At the end of the year, the learners will return their laptops; they can be taken to the service provider to be refreshed and to receive new e-books if the learner has passed and will be moving to the next grade. As per the ICT policy, devices need to be always safeguarded. The following section focuses on additional research relevant to this study.

2.4 RESEARCH IN THE RELEVANT FIELD

Numerous studies have been conducted relating to using LMS in the classroom. For example, Guney (2014) researched on technology in Accounting and e-Accounting. She emphasised that e-Accounting became an important need in the educational system as it enables those learning and to learn Accounting limitless and many information sources and versatile interaction. As she further elaborated that curriculums should be made suitable for e-Accounting and trained individuals should be open to technology and be able to use It and know legal regulations concerning it. Nwokike and Uwaneze (2016) researched on the utilization of new technology in teaching by financial Accounting teachers in secondary schools in River States. Based on their findings; it was concluded that the introduction of new technologies has helped in enhancing teaching and learning and effective utilization of new technologies will improve the teaching and learning of financial Accounting in secondary schools in River States. They recommended that the government should provide the needed technological facilities in secondary schools for teaching Financial Accounting. Cai (2012) researched e-learning and English teaching in China. He emphasised the advantages of e-learning, such as having abundant teaching resources, easy-toaccess information and the effect of direct interest caused by the need to discover the thing itself. In a study in South Africa, Padayachee (2021) used the online Siyavula practice programme to focus on Grade 9 mathematics learners. The TPACK framework was also used in this study to enhance mastery and proficiency and to improve its pedagogical influence in teaching and learning. As per Padayachee's findings, it was discovered that not all schools were at the same level of resourcing and competence in ICT integration. This allowed certain schools to have an advantage on how the platform was accessed and its features optimally used. The unavailability of learners to have their own devices to engage on the platform could be observed in their preference to work outside of school and late at night (Padayachee, 2021).

Accounting as a subject has been identified as a scarce skill and an essential ingredient in the development of the South African economy that seeks to become

compatible and sustainable locally and globally (South African Institute of Charted Accountants (SAICA), 2008; Schreuder, 2014). The grade 12 the National Senior Certificate over the past years, pass rates in Accounting have remained low. Unfortunately, there has also been a significant decline in the number of learners writing the Accounting grade 12 examinations in the years 2019 and 2020 (Department of Basic Education National Senior Certificate report, 2020). With this been said it was crucial for Accounting educators to find different techniques to teach Accounting and move away from textbook teaching.

As per Sethosa's (2021) findings in a study of teacher's perception of ICT integration in the classroom, it is evident from the interviews that every teacher-participant had their own unique observation or perception regarding ICT in the schools and the challenges hindering the effective integration of ICT for teaching and learning purposes. It is crucial in this study to obtain the participants' perceptions of the GDE digital content platform, as this will enable the researcher to determine if it improves learner performance. The relevance of integrating ICT is to prepare learners to be active participants in the information society and to make teaching and learning more relevant, innovative, and convenient.

These findings were discovered in Sethosa's (2021) research: Though integrating ICT is still in its infancy, there are teacher-participants more skilled in using ICT than others, even without providing ICT training from the Department of Education. The data collected from the interviews reveal that a lack of ICT skills created a sense of feeling inferior for some educators and a fear of being humiliated in front of technologically advanced learners. Findings revealed that teacher-participants are aware of the importance of introducing ICT training to all teachers and felt that the ICT training should be provided regularly through a workshop instead of a bursary.

Educator-participants felt strongly about the continuous support and maintenance of ICT devices from the Department of Education. Though the educator-participants were not fully aware of the ICT policy, they recommended that the school management team should consider the pivotal role that the school-based ICT policy would play. The ICT policy is crucial in this study as the GDE digital content platform is used in secondary schools. The policy guides the educators where ICT in schools is involved.

Mongwe's (2022) findings were that e-learning saves students' costs on transportation and accommodation. The study also revealed that e-learning allowed students to study at home independently. Educational institutions should have communication plans in place before the academic year begins to provide better orientation for students immediately in their academic studies. The study concluded that campus-based institutions that use e-learning should encourage online group discussions to prevent students from feeling isolated while studying online and increase students' attention and focus by involving them in the learning process. The findings revealed that loadshedding and connectivity significantly influence students' ability to complete their learning.

The study discovered that using emergency technologies used during the COVID-19 pandemic, such as Microsoft Teams, Zoom, eFundanathi, YouTube, and Wits elearning platforms, such as the student self-service portal and Sakai can be observed as successful technologies to be used by lecturers and students when implementing e-learning. It is claimed that the "e" in e-Learning stands for electronic; however, it would better stand for "evolving, enhanced, extended, everywhere, every time, and everybody" (Li & Masters, 2009). The beauty of e-Learning is that it can be conducted anytime and anywhere (Charmonman, Brahmawong, & Vate-U-Lan, 2009).

2.5 CONCLUSION

This chapter reviews the literature on the influence of ICT in teaching and learning. The literature clarified the TPACK framework and how it relates to this study. The educational policy and practice are emphasised with the focus on having ICT training and support, ICT security in schools and the rationale of this research. The benefits and challenges of the TPACK framework were further discussed, emphasising the importance of using technology skills in the 21st century to enhance creativity and invigorate teaching and learning in the classroom and during remote sessions.

Learners can use the platform at home and school, anytime and anywhere. Several studies have been discussed related to using online platforms for teaching and learning; however, an analysis of using the GDE content platform by Accounting

educators could not be found; therefore, this study contributes to this field. The subsequent chapter summarises the research methodology. The next chapter also discusses the measures of trustworthiness and the ethical considerations of this study.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

The previous chapter solicited the literature review, theoretical framework, the TPACK in teaching and learning, benefits and challenges of the TPACK framework, educational policy and practice, ICT training and support procedures with the ICT security and related literature on the study of using LMS in the classroom.

This chapter includes the research methodology the measures of trustworthiness, and the ethical consideration. Research methodology can be described to solve or answer the research problem systematically. It is studying how research is conducted scientifically. According to Johnson, Onwuegbuzie, and Turner (2007), research methodology focuses on research questions that call for real-life contextual understandings, multi-level perspectives, and cultural influences. Research, as defined by Kothari (2004), involves an original contribution to the existing body of knowledge, thereby adding to its development. This process includes a systematic approach encompassing theory generalisation and formulation.

3.2 RATIONALE FOR EMPIRICAL RESEARCH

As per the introduction in Section 1.1, due to the COVID-19 lockdowns in 2020, educators had to select different Learning Management Systems (LMS) to facilitate continued teaching and learning beyond the classroom. The Gauteng Department of Education (GDE) digital content platform serves as an LMS, allowing both educators and students to collaborate online and within the classroom. The GDE content platform was introduced in October 2019 before the COVID-19 lockdowns, when it officially launched its digital content and online assessment platform. This platform aimed to increase access to digital content and enhance opportunities for continuous assessment activities to support curriculum delivery in ICT-enabled schools. The GDE digital content platform, therefore, prompts the need for empirical research to occur to determine how this LMS is used to improve learner performance. The subsequent section presents a more detailed explanation of the research design.

3.3 RESEARCH DESIGN

Saunders et al. (2012) define research design as a plan to answer a specific research question. According to Jenkins-Smith et al. (2017), a research design is the steps to collect and analyse research data. It is the general plan to answer the research topic or question. Creswell (2014) explains that research design is the procedure involved in the research process—data collection, data analysis, and report writing.

A research design is the strategy and analytical approach chosen to integrate the components of a study. This ensures that the research problem is investigated coherently and logically. Kothari (2004) remarks that the research design is the conceptual structure within which the research is conducted; it constitutes the blueprint for the collection, measurement, and analysis of data. The research design encompasses the overall strategy or plan for conducting a research study. Creswell (2014) explains, “Research design is the specific procedure involved in the research process, data collection, data analysis and report writing”. According to Kirumbi (2018), a research design is the set of procedures and methods used for data analysis of variables used in a research model.

A research design is required in this study to determine how this LMS is used in contrast with the previous teaching where learners would refer to the physical textbook. With technology, learners are no longer relying on the educator solely; they can now use the Internet to research and learn more about the topics taught in class by using the GDE digital content platform. Learners can access this information using their smartphones and laptops, whereas previously, they relied on the Internet café or their parents who would download and print information for their children in their workplace. The Research paradigm, Research approach, and Research type are subsequently discussed as part of the research design.

3.3.1 Research paradigm

Willis (2007) explains that a paradigm in educational research is a comprehensive belief system, worldview, or framework guiding research and practice in a field.

Saunders et al. (2012) list research paradigms or philosophies, comprising these approaches:

- Positivism
- Realism
- Interpretivism
- Objectivism
- Subjectivism
- Pragmatism
- Constructivism
- De-constructivism
- Functionalism
- Radical humanism
- Radical structuralist

According to Grix (2004), research can be best conducted by setting out the relationship between what a researcher thinks can be researched (her ontological position), linking it to what we can know about it (her epistemological position) and how to acquire it (her methodological approach).

This research was conducted within the interpretive paradigm. Interpretive researchers perceive social reality as intricately woven into their social context. Rather than seeking a concise summary, they explore truth through an understanding-based approach, integrating participants' subjective experiences, beliefs, and notions within their specific social and cultural milieu (Rehman & Alaharti, 2016; Shah et al., 2013; Bhattacherjee, 2012).

The purpose is to understand and interpret educator's perspectives on the GDE digital content platform and the lessons that can be learnt. Interpretivist/constructivist approaches to research have the intention of understanding "the world of human experience" (Cohen & Manion, 1994, p.36), suggesting that "reality is socially constructed" (Mertens, 2005, p.12). The interpretivist/constructivist researcher relies on the "participants' observations of the situation being studied" (Creswell, 2003, p.8) and recognises the influence on the research of their own background and

experiences. The interpretive paradigm is suitable for this research as it can call various perspectives from the participants; there can be more than one interpretation of the findings derived from the data collected.

As a researcher within the interpretive paradigm, I positioned myself as the primary instrument. My role involved understanding the context, collecting and analysing data, and representing the audience. I adhered to interpretive principles related to standards of evaluation and ethical considerations, as emphasised by Creswell (2007:24). The research approach is discussed below.

3.3.2 Research approach

According to Creswell (2007), the three methods are qualitative, quantitative, and mixed-method research. The study focused on the qualitative approach.

This study employed the qualitative approach because the participants' observations and opinions can be better understood. Qualitative research in the interpretive paradigm assisted the researcher by using the non-participant observation and the online questionnaire as evidence of data collected. The data collected were analysed and interpreted to validate the findings in 4.4. Qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem (Ormston, Spencer, Barnard, & Snape, 2014).

The research process involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher interpreting the data's meaning. The final written report has a flexible structure. Those engaging in this form of inquiry support research observation, honouring an inductive style, a focus on individual meaning, and the importance of rendering the complexity of a situation (Creswell, 2007). Grover (2015) explains that a research approach is a strategy of inquiry.

3.3.3 Research type

The study implemented a phenomenological design in the research. According to Connelly (2010), phenomenology attempts to understand the essence of the shared experience of multiple individuals within a setting. Data are usually obtained through in-depth interviews, document analysis, or observation. This design is essential for this research as an online questionnaire and a non-participant observation were used to collect data from the participants.

According to Creswell (2013), phenomenologists are interested in the analytical and descriptive experience of phenomena by individuals in their everyday world. He further elaborates that in a phenomenological study, collecting information involves primary in-depth interviews with 10 individuals. The current research collected data from six participants through an online questionnaire and from an additional six participants through a non-participant observation.

The phenomenological type of research will assist the researcher in answering the research questions. The study participants supplied firsthand data. This data were collected as a non-participant observation in the participants' classroom where the researcher observed the lesson. An online questionnaire was then shared with the other participants.

3.4 RESEARCH METHODS

According to McMillan and Schumacher (2006), research methods refer to how data are collected and analysed, and the generalisations and representations derived from the data. According to Polit and Beck (2004), the research method is the technique used to organise and structure a study systematically from the beginning to the end—from data collection to data analysis. This section explains how participants were selected, how data were collected, and how it was analysed.

3.4.1 Participant selection

Kothari (2004) define sampling as selecting representative elements from a population that will form the sample. A sampling frame is a list comprising the units of a population sample. Data or information is collected from participants, and these participants belong to the research population, the group of individuals having one or more characteristics of interest (Asiamah, Mensah & Oteng-abayie, 2017). The population in this study was educators teaching Accounting, using the GDE digital content platform. Six participants were selected for the online questionnaire, and another six for the non-participant observation. Twelve participants participated in the research. The study selected various participants to receive data from multiple instruments because few educators taught Accounting identified in the schools. The twelve participants were all willing to take part in the research as they all signed the consent forms to take part in the research. The six participants were available for the nonparticipant observation to take place in their classrooms and the other six participants submitted their online questionnaire. Six schools took part in this research. This research was done only on fully ICT schools in the Ekurhuleni North District.

Alvi (2016) regards sampling methods as volunteer, convenient, purposive, snowball, matched, and genealogy based. This study employed purposive sampling. Purposive sampling is used to select participants most inclined to yield appropriate and useful information (Kelly, 2010:317). Using a purposeful selection, researchers can find and choose participants who can offer rich and varied knowledge about the research concern (Campbell, Greenwood & Prior, 2020). The study involved 12 educators from ICT secondary schools in South Africa, in Gauteng in Ekurhuleni North. These are ICT schools identified to have Accounting in their schools. The educators were identified as qualified Accounting educators and were also using the digital content platform to teach and learn. The educators must have used the GDE content platform to be selected in this study.

3.4.2 Data collection

The techniques employed in the study were open-ended questionnaires and nonparticipant observation. The researcher chose two instruments to receive various data that can be used for triangulation.

3.4.2.1 Questionnaires with open-ended questions

A questionnaire, according to Creswell (2012:382), is a form used in a survey design that participants in a study complete and return to the researcher. Before completing the questionnaires, participants received a consent form (Appendix C) that emphasised the study's purpose and whether the participant wanted to participate in the study. Study participants were sent an online questionnaire (Appendix E) through email and their WhatsApp numbers. The WhatsApp numbers of the participants were collected on the day the researcher visited the schools for the participants' consent to participate in the research. The participants received a Google link, which they could use on their smartphones or laptops to answer the survey questions. The questions were based on the GDE digital content platform for teaching and learning.

Taherdoost (2019) mentions that decision-makers and researchers in academic sectors use questionnaires to find responses to specific vital questions. In this study, six participants participated in the online questionnaire because few educators teach Accounting in ICT schools. Each online questionnaire required about 10 minutes for the participant to answer. The questionnaires included content sections with the participants' biographical information, such as age, gender, and how long the participant has been using the GDE digital content platform.

The questionnaires were fair and not biased as they solicited the primary research purpose. The participants were not hesitant to participate in the online questionnaire as they responded timeously to the online link.

3.4.2.2 Non-participant observation

Observation is a method that implies information collection through the investigator's own observation. The researcher used an observation sheet (Appendix F) as a tool to assess and observe the educators' lessons in the classroom while teaching learners using the GDE digital content platform as a teaching and learning digital device. The non-participant observation determined the usefulness of the digital content platform and collected more insight as to how educators use the teaching device. Six participants participated in the non-participant observation, as mentioned in Section 4.3.2.1, educators who teach Accounting in ICT schools are limited. These participants differ from the participants who participated in the online questionnaires. The nonparticipant observation was needed to identify the usefulness of the GDE digital content platform in the classroom to teaching and learning. The researcher observed the way the participants used to different techniques on the LMS and how it incorporated into teaching and learning. More observation was done on how the participants interacted with the learners when this LMS was used and how the learners responded to the teaching taking place. Most of the learners were active and participated well and were willing to assist the participants when technical glitches occurred while teaching. Different questions were used in the instruments to collect more information about this LMS (Appendix E and Appendix F). The data was recorded on the researchers laptop using the tools (Appendix E and Appendix F).

Maree (2010:84) indicates that conducting observations can provide an insider perspective of the participants' dynamics, behaviours, and environment in various settings. The other six participants participated in the non-participant observation in the six ICT schools that used the GDE digital content platform. The non-participant observation occurred in the participants' classroom, where observation was for 45 to 60 minutes, depending on the schools' periods. The non-participant observation provided the researcher with a clear observation of how the GDE digital content platform operates.

The combination of non-participant observation and online questionnaires provided valuable insights. Participants engaged with the online questionnaires, sharing their

perspectives on the LMS's usefulness, and revealing details about their years of experience with it. Simultaneously, during non-participant observation, the researcher closely observed how participants interacted with the LMS, assessing its effectiveness for teaching and learning. Notably, learners actively participated in lessons delivered through the LMS, fostering an environment conducive to effective teaching and learning. As an educator myself teaching Accounting; getting an insight of how the participants incorporated this LMS in their teaching was of great importance to me as I am also an ICT co-ordinator in one of the fully ICT schools in the Ekurhuleni North District and it is of great concern to determine if the GDE digital content platform is indeed a valuable LMS to use in teaching Accounting.

3.4.3 Data analysis

Qualitative data analysis is a process of describing, classifying, and interconnection phenomena with the researcher's concepts (Awdoziej, 2015). This study employed thematic analysis. Thematic analysis is a method for analysing qualitative data that entails searching across a data set to identify, analyse, and report repeated patterns (Braun & Clarke, 2006). According to Braun and Clarke (2006), thematic analysis involves a six-phase process for analysing qualitative data.

- Phase 1: Data familiarisation

In the study, the researcher familiarised themselves with the data collected from the participants through the online questionnaire and the non-participant observation.

- Phase 2: Generating initial codes

Relevant data were collected, and codes were created to aid the study. These codes served as building blocks for analysis.

- Phase 3: Identifying themes

The researcher searched for important themes and subthemes from the data collected. These themes and subthemes are established in 4.3..

- Phase 4: Reviewing themes

The researcher evaluated whether the identified themes aligned with the codes extracted during Phase 2.

- Phase 5: Defining and naming themes

Clear definitions and names are assigned to each theme, enhancing their conceptual clarity.

- Phase 6: Producing the report

the researcher finalised the analysis produced and a report of the findings. Refer to Section 5.3.

Data analysis is a method for describing data, but it also involves interpretation in selecting codes and constructing themes.

The data are defined, discussed, compared, and combined within the literature review to find an understanding of educators' reflections on using the GDE content platform in a teaching and learning environment and specifically focus on Accounting.

The theoretical framework guided the results through all aspects of teaching and learning incorporated to formulate a conclusion about the topic.

3.5 MEASURES OF TRUSTWORTHINESS

Qualitative researchers consider dependability, credibility, transferability, and confirmability as trustworthiness criteria to ensure the rigour of qualitative findings (Schwandt, Lincoln, & Guba, 2007). Credibility is defined as the confidence that can be positioned in the truth of the research findings (Holloway & Wheeler, 2002; Macnee & McCabe, 2008). Credibility establishes whether the research findings represent plausible information derived from the participants' original data and is a correct interpretation of the participants' original observations (Graneheim & Lundman, 2004; Lincoln & Guba, 1985).

Two data collection methods were employed. Transferability refers to how much the results of qualitative research can be transferred to other contexts with other participants—it is the interpretive equivalent of generalisability (Bitsch, 2005; Tobin & Begley, 2004). In the study, transferability was achieved by using multiple data sources. Transferability will be ensured by notifying the participants about the research and what it entails.

Confirmability refers to how much the results of an inquiry could be confirmed or corroborated by other researchers (Baxter & Eyles, 1997). As the researcher of this study, I ensured that the findings accurately captured the true reflection and interpretation of participants' responses (Lincoln & Guba (1985) in De Vos, 2005:346). According to Bitsch (2005:86), dependability refers to "the stability of findings over time".

Dependability involves participants evaluating the findings and the interpretation and recommendations of the study to ensure that they are supported by the data received from the study informants (Cohen et al., 2011; Tobin & Begley, 2004). Educators selected for this research were dependable candidates because they taught Accounting using the GDE digital content platform.

3.6 ETHICAL CONSIDERATIONS

According to Ayenew (2022), ethical considerations in research refer to guidelines and principles which researchers must adhere to as they conduct their research. Research often involves face-to-face interaction with people as researchers study behaviours and evaluate the effects of certain phenomena on a target population. Ethical considerations dictate such interactions to ensure research is conducted per the set rules and principles.

When most people think of ethics or morals, they think of rules for distinguishing right and wrong, such as the Golden Rule: "Do unto others as you would have them do unto you" (Gensler, 2013). Ethics refers to moral principles of guiding conduct held by a group or even by a professional.

Ethical clearance was granted by UNISA (Appendix A), and the Department of Education in Gauteng (Appendix D) granted permission for the research to occur in the ICT schools in the Ekurhuleni District. Approval from the schools was awarded by the participants identified for the study as they issued a consent letter entailing information about the research and an option of participating. Participants' information was hidden to protect their anonymity and confidentiality.

The study adhered to the anonymity and confidentiality of the participants, as no participant names or the schools' names were mentioned in the research. Also, the letter entailing information regarding the research indicated that no benefits would be compensated to the participants.

3.7 CONCLUSION

This chapter describes the research methodology used to compile this study. It explains how the empirical research was conducted. The research process design included the research paradigm, research type, and research approach presented in this study. The chapter also describes the research methods, including participant selection, data collection procedures, and processing, which includes data analysis. The chapter concludes by discussing ethical considerations.

The subsequent chapter focuses on the findings and interpretation of the data collected from documents and participants.

CHAPTER 4: DATA ANALYSIS, FINDINGS AND DATA DISCUSSION

4.1 INTRODUCTION

The previous chapter details the research design and methods used for this study. This chapter analyses the data collected through online questionnaires and nonparticipant observation to guide the research questions. The chapter deals with various sections describing the rationale for collecting, storing, and analysing the data. The first section

of this chapter describes the participants' profiles, while the second part presents the findings from the data collected.

This chapter aims to analyse the data collected from the research participants. The participants' biographical information was requested as this was important for the research by the relevant participants using the GDE digital content platform. The chapter indicated the themes and subthemes emerging from the data collected in the six ICT schools in Ekurhuleni North. The chapter concludes with a summary of the empirical findings.

4.2 PARTICIPANTS' INFORMATION

The participants provided the biographical information in Table 4.1 below, including their age, gender, and the number of years they have been teaching Accounting.

Table 4.1: Participant information for the online questionnaires

Participant code	School	Gender	Age group	Number of years of experience in teaching Accounting	Number of years using the GDE digital content platform	Grades taught
Participant 1	A	Female	20 to 35	2	2	10-11
Participant 2	B	Female	20 to 35	3	3	10
Participant 3	C	Female	41 to 50	15	7	11
Participant 4	D	Female	36 to 40	4	5	10
Participant code	**School**	**Gender**	**Age group**	**Number of years of experience in teaching Accounting**	**Number of years using the GDE digital content platform**	**Grades taught**
Participant 5	E	Male	36 to 40	14	5	10-12

Participant 6	F	Male	20 to 35	5	3	10-12

Table 4.1 includes four female and two male online questionnaire participants. Two participants were in the age group 20 to 35; three aged 36 to 40; one aged 41 to 50. The participants' years teaching Accounting ranged from two to 15 years. The participants' number of years teaching with this LMS ranged from two to seven years. They were teaching Accounting in the FET phase—Grades 10 to 12. As stipulated above; to safeguard their identities, the participants were allocated numerical codes as identification. They were called Participant 1 through Participant 6 in the study.

Table 4.2 below summarises those in the non-participant observation.

Table 4.2: General participant information for the non-participant observation

Participant code	School	Gender	Age	Number of years teaching Accounting	Number of years using the GDE digital content platform	Grades taught
Participant 7	A	Male	20 to 35	7	3	11
Participant 8	B	Male	36 to 40	10	4	11-12
Participant 9	C	Male	20 to 35	6	2	10
Participant 10	D	Female	41 to 50	15	7	12
Participant 11	E	Female	36 to 40	8	4	10
Participant 12	F	Female	20 to 35	5	3	12

The above Table 4.1 and Table 4.2 display the educators teaching Accounting who participated in the non-participant observation. Three participants are male, and three are female. Three of the participants—age group 20 to 35. Two participants—age group 36 to 40, and one participant—age group 41 to 50. The number of years the participants have been teaching Accounting ranges from five to 15 years; therefore, they were experienced educators. The participants are called Participant 7 through Participant 12**,** respectively, to protect their identities.

The non-participant observation occurred in six schools, labelled as Participants 7 to 12. The participants that completed the online questionnaire from 1 to 6 come from the same six schools where the non-participant observation occurred. Each school's two

Accounting educators participated in the research, where each participated in the non-participant observation, and the other participated in the online questionnaire. The separation of the non-participant observation and online questionnaire was conducted to receive data from the same schools while eliminating time wasting. The researcher shared the online questionnaire with the participants when the consent form (Appendix C) was issued. Arrangements to conduct the non-participant observation followed. The researcher then arranged appointments that accommodated the participants' availability for the observation. Below is a discussion of themes from the data as informed by the research questions.

4.3 REPORTING ON THE IDENTIFIED THEMES AND SUBTHEMES

As aforementioned, this discussion regards what emerged from the online questionnaire and the non-participant observation data. The main aim was to understand the educators' use of a digital content platform to improve learner performance in Accounting in Gauteng. The data analysis revealed specific themes and subthemes in Table 4.3 below, followed by further in-depth discussions.

Table 4.3: Themes and subthemes

THEMES	SUBTHEMES
1. Educators' actual use of the GDE digital content platform	a. Digital content platform skills and training. b. Improvement in learner performance. c. Learner participation.
THEMES	**SUBTHEMES**
2. The educator's observation of using the GDE digital content platform	a. Educators' observation of using the GDE content platform. b. Improvement of learner performance.
3. Advantages of using the digital content platform	a. Advantages of using the digital content platform in accounting. b. Digital content platform technical support.

4. Challenges of using the digital content platform	a. Challenges of using the digital content platform in accounting where technical glitches are a common challenge. b. Load-shedding.
5. Lessons that can be learnt from educators when using the GDE digital content platform to improve learning	a. Sharing of lessons using the GDE digital content platform. b. Subtheme B: The learning management system as a user-friendly and timesaving strategy

1. Theme 1: Educators' actual use of the GDE digital content platform. The theme was identified in the first research sub-question SQ1:

What are educators' actual use of the GDE digital content platform?

Educators' actual use of the GDE digital content platform is the first theme. The three subthemes emerging from this theme are digital content platform skills and training, learner improvement in assessments and learner participation. The subthemes are discussed below as they contribute to the sub-question raised.

2. Theme 2: The educators' observation of GDE digital content platform use; is the second theme that materialised from SQ2:

What are the educators' observations of using the GDE digital content platform?

This question aims to explore educators' observation of the usefulness of the LMS for teaching and learning. The subthemes emerging from this theme are learners' response to the LMS and improving learner performance.

3. Theme 3: Advantages of using the digital content platform. SQ3 inspired this theme:

What are the advantages of using the digital content platform in the FET Phase in Accounting?

This theme aimed to determine the advantages the educators experienced when using the GDE digital content platform. The subthemes emerging in this theme are the learners' response to the digital content platform, learners' task performance and teaching methods.

4. Theme 4: Challenges of using the digital content platform. SQ4 inspired this theme:

What are the challenges of using the digital content platform in the FET Phase in Accounting?

The objective of this theme was to identify the challenges that educators experienced when using the GDE digital content platform as a technique for teaching and learning. The subthemes emerging in this theme are technical glitches and load-shedding.

5. Theme 5: Lessons learnt from educators when using the GDE digital content platform. SQ5 inspired this theme:

What lessons can be learnt from educators when using the GDE digital content platform to improve learning?

This theme aimed to determine the lessons educators used to improve learner performance. The subthemes emerging in this theme were the sharing of lessons, user-friendly and saves time and lastly, the enhancement of teaching and learning.

The following sections elaborate on the themes and subthemes.

4.3.1 Theme 1: Educators' actual use of the GDE digital content platform

The subthemes emerging under this theme are revealed in Table 4.3. The subthemes are:

- Subtheme A: Digital content platform skills and training
- Subtheme B: Improvement in learner performance
- Subtheme C: Learner participation, learner improvement in assessments, and learner participation. These subthemes are elaborated on in the sub-sections.

4.3.1.1 Subtheme A: Digital content platform skills and training

This subtheme is aimed at whether sufficient skills and training were provided to the educators using the digital content platform. Educators and learners should be trained and workshopped when a new technique has been introduced to the school (Lai, 2008; Law, 2008; Thomas & Knezek, 2008). Teachers need to understand how to use technology to facilitate meaningful learning, defined as that which enables students to construct deep and connected knowledge which can be applied to real situations. Educators need to be trained when an innovative technology is being introduced to them so that they can have confidence in using the device and eliminate the fear of being introduced to a creative method of teaching and learning that can enable the learners to improve their marks.

The participants were asked if they received training on how to use the GDE digital content platform effectively. Five participants replied ‘yes’, whereas only one participant (Participant 1) replied ‘no’. The participant who replied ‘no’ remarked that since they started working at the school, training could have been facilitated by the officials in charge of the ICT training.

The participants were further asked how many years they have been using the GDE digital content platform to teach and learn. One participant answered ‘two years’; two participants responded ‘three years’; two participants responded ‘five years’; and one participant responded ‘eight years’. The number of years participants used the LMS range from two to eight years. This demonstrates that the LMS has existed for a while, and educators find it useful for teaching and learning.

When non-participant observation was conducted with Participants 7 to Participant 12, the participants opened the GDE digital content platform, and they conducted their

lessons by using a variety of resources, such as e-books and digital lessons offered in the platform. Participant 8 clicked on the GDE digital content platform icon, and various e-books were displayed on the smartboard. The participant selected the Accounting e-book for the grade taught in that period. The participant selected an activity from the e-book and the lesson proceeded. It is evident that the GDE digital content platform is an adequate device for teaching and learning for educators and learners.

4.3.1.2 Subtheme B: Improvement in learner performance

The research is based on educators' observations of whether the GDE digital content platform improves learner performance. The question in the online questionnaire stated: How does this LMS enhance learner performance in Accounting? The participants responded as follows:

- Participant 1: "Learners are proactive as it's more practical".
- Participant 2: "Improvement is minimal as the LMS is not mostly used".
- Participant 3: "It boosts their confidence as it relates to the technology that they use on a daily basis, therefore, making it easy for them to learn and grasp concepts".
- Participant 4: "The learners get better grades than before".
- Participant 5: "Learners are able to grasp information quicker than before".
- Participant 6: "The learners' grades have improved gradually as they are exposed to various ways of teaching".

When non-participant observation was conducted, the participants encouraged the learners to attend to homework and research, prompting the learners to use technology and other digital devices learners are exposed to. The researcher observed Participant 9's class while PK occurred by playing a video illustrating a topic the learners were introduced to. The learners watched and listened to the video attentively. After the video concluded, learners engaged in discussions within their assigned groups in the classroom. During this process, interactions between the learners and the educator were observed.

4.3.1.3 Subtheme C: Learner participation

Technology as a means of teaching and learning encourages innovation and collaboration in learners. Clark (1996) claims that the roles of the participants emerge as the joint activity becomes clear. When the educator and the learner can interact well concerning technology, learner participation will emerge, and learners can collaborate while a lesson can be executed successfully.

The following responses were received regarding the online question: stated: How do learners respond when this LMS is used?

Participant 1 “My learners respond positively because they are able to interact with me and also amongst each other and teaching and learning becomes interesting”. During the researcher’s observation, one learner was asked by the participant to do the calculation for VAT on the smartboard using the IQ Interactive platform. The learner took the smartpen and proceeded to go on the IQ Interactive platform. Once opened the learner chose to use a red colour to write the calculation down. A calculator from the platform was also used to verify if the calculation was indeed correct. Participant 2 and 3 was similar “the learners are active in class, and they become interested when the platform is used”. Participant 4 and 5 “The learners respond positively with enthusiasm”. Participant 6 “The learners become eager to learn”. The participant formed groups where the learners had to present their calculations in a group on the smartboard. Their topic that was discussed was the Income Statement. The same process of using the IQ Interactive platform was used successfully by the group members. One would write down the format and the other members had an opportunity to present how the certain calculations were done and explain the reason why the calculation was done is such a way according to the adjustments that were given on the class activity.

From the participants’ feedback regarding the online questionnaire, this LMS encourages learner participation in class. When the learners interacted with their peers and the educator when observation was conducted on Participant 11, the researcher observed how the learners were interested in knowing more about the topic the

participant introduced to the learners. Questions were directed by learners pertaining to the topic the participant introduced. The participant presented myriad examples on the smartboard, and the classroom became a conducive and productive environment. This enabled learners to perform well in their studies as they participated in class by directing questions and providing productive responses.

4.3.2 Theme 2: The educators' observation of GDE digital content platform use

Table 4.3 reveals two subthemes emerging under this theme. The subthemes are:

- Subtheme A: Educators' response to the learning management system.
- Subtheme B: Improvement of the learners' performance

4.3.2.1 Subtheme A: Educators' response to the learning management system

When the researcher observed the participants during the non-participant observation, participants interacted well with the learners. The learners were asked questions and responded to the participants' questions using the smartboard. Participant 10 accessed the GDE content platform and navigated to the e-book. In the e-book, learners were presented with an activity projected onto the smartboard. The learners with their mini laptops opened the e-book on their devices, and they continued doing the activity that the participant provided them. Once the learners completed the activity, the participant asked four learners to present their responses on the smartboard. Because this is Accounting, the learners used the IQ Interactive platform to write down their calculations to enable others to observe how it was conducted.

Collaboration was evident in the classroom as the participant used the smartboard and the GDE digital content platform for teaching and learning. The participant used various devices for teaching that created more interaction and participation in class. The learners also collaborated with one another by discussing the activity and came up with a strategy of how to present the matter to the class as a group while using the

IQ Interactive platform. One learner quickly presented the calculation to the class while the other learner took a video of the learner presenting. Once the learner was done presenting the video was shared in the Accounting WhatsApp group where it can later be viewed when revising for formal assessments.

4.3.2.2 Subtheme B: Improvement of the learners' performance

During the non-participant observation, the researcher determined that most learners from participants 7, 8 and 9 were familiar with the content taught. This was evident in the way learners understood the content, and it indicated that the learners did more research individually. Technology has enabled learners to learn independently and enhance their expertise in discovering new and innovative study methods to improve their performance. Upon the researcher's completion of the observation, Participant 8 was asked if this LMS improves learner performance. The participant emphasised a critical aspect that learners who use the LMS during class and at home are the learners who excel well in their studies. The participant also emphasised that data are sent from the district to the schools, and in that way, the educators can observe which learners are using the LMS efficiently.

4.3.3 Theme 3: Advantages of using the digital content platform

Livingstone (2012:3) explains that the Basic Department of Education intended to integrate ICT into the South African educational system to enhance teaching and learning. In this theme, certain advantages arose when using the digital content platform.

The question directed in the online questionnaire:

What are the advantages of using the GDE digital content platform?

Some participants emphasised that the GDE digital content platform plays a pivotal role in the classroom. There was no need to prepare lessons because lessons were readily available on the platform. Participants interacted with the learners when using the platform. The participants also discovered that learners find it easier to learn on the

smartboard than the textbook. Participant 4 responded “The content moves faster, and learner participation is also improving”. Participant 5 responded “The lessons can be stored or saved for future use and all resources are easily accessible”. In concluding this theme Participant 6 responded “Less work is done by the teacher because you have lessons already prepared for you and this saves time”. This LMS has changed the need for educators to prepare for lessons because the lessons are readily available on the platform. This has created more time for educators to spend on teaching rather than preparing the lesson.

Last, an online questionnaire question was: Does the school have an ICT policy which acts as a guideline on how to integrate ICT effectively within the school? Six of the participants responded ‘yes’ to the question. A school ICT policy is also used as a guideline, especially in offering support to educators who are not ICT literate.

4.3.3.1 Subtheme A: Diverse teaching methods

This subtheme is aimed at determining the teaching techniques during non-participant observation. Participant 7 opened the digital content platform, and a lesson on budgets was already on the platform; the participant proceeded by teaching using the lesson displayed. The educator also used the IQ Interactive education platform to write down calculations for the activity. An IQ Interactive education platform is a platform where an educator can use free handwriting, display charts, and screen record a lesson. After completing the information input on the platform, the participant saved it for future use in subsequent lessons.

Participant 9 played a video on the topic of companies. The lesson was from YouTube, where the GDE develops videos for Grade 12 learners as part of revision to prepare for their examinations. The response from the learners was positive because they listened to the video attentively. Once the video was complete, the participant continued asking the learners questions regarding the video presented. Learners where able to respond, and interaction with the participant and learners was observed. The participant also shared the link to the video through the learners' WhatsApp group for the learners to refer to the video in their own time or when they are home studying.

Here, the participant used a new way of teaching, and the exploring level of the TPACK framework has been identified.

4.3.3.2 Subtheme B: Digital content platform technical support

This subtheme developed from the online questionnaire was:

Are there ICT technicians/interns that can assist educators when they encounter technical issues?

Two of the participants responded “no”, whereas four of the participants responded “yes”.

Another online question was:

Does the school have an ICT committee? If yes, does the committee support the educators where ICT is concerned?

Six participants responded ‘yes’ to the answer that the committee was helpful, and that the committee also updates the educators where ICT issues are concerned. As per the school ICT policy, the ICT committee needs to support the educators and staff concerning ICT issues. ICT interns conduct weekly rounds in the educator’s classroom to identify if there is any technical support needed.

4.3.4 Theme 4: Challenges of using the digital content platform

Like any other technology developed, challenges arise, which can harm the progress needed. This theme has three subthemes:

- Subtheme A: Technical glitches
- Subtheme B: Load-shedding

The question the online questionnaire is:

What are the disadvantages of using the GDE digital content platform?

4.3.4.1 Subtheme A: Technical glitches The

participants responded as follows:

- Participant 1: “Technical problems do arise, and it makes it difficult for a lesson to continue”.
- Participant 2: “The main challenge is load-shedding”.
- Participant 3: “When the equipment is corrupted or serviced, all the information in the smartboard is lost”.
- Participant 4: “Learners without the access to phones or internet might not be able to continue with their studies when they are at home”.
- Participant 5: “Load-shedding results in undelivered content”.
- Participant 6: “Load-shedding is one factor because teaching and learning cannot continue when all the content is on the smartboard”.

Load-shedding is a common factor participants encountered as a challenge when using the LMS. It becomes difficult for the educators to continue a lesson during load-shedding because they depend on the LMS more than the textbooks, as they have been replaced by e- in the learners’ mini laptops.

In the absence of their mini laptops, some learners were unable to view the class activity. Consequently, they had to sit alongside peers who had devices to access the content. Learners who were presenting their responses encountered a challenge: they could not proceed using the smartboards. Instead, they resorted to the whiteboard. During this time, the participant realised she did not have a whiteboard marker and had to borrow one from an educator in the neighbouring classroom. Despite these hurdles, the learners continued to present their responses on the whiteboard, and their peers actively marked and completed necessary corrections.

4.3.4.2 Subtheme B: Load-shedding

As discussed in Subtheme A, several participants raised concerns regarding loadshedding during teaching and learning activities. Load-shedding started in South

Africa in 2007 and, after that has continued to worsen. Learners also could not charge their mini laptops and smart phones owing to the unavailability of electricity in their areas. It has also become difficult for educators to present learners' homework on smartphones and mini laptops. This is owing to a learner responding by saying they did not have electricity at home when the educator asks why the homework is not done.

4.3.5 Theme 5: Lessons learnt from educators when using the GDE digital content platform

The final theme comprises two subthemes:

- Subtheme A: Sharing of lessons using
- Subtheme B: The learning management system as a user-friendly and time-saving strategy

The question on the online questionnaire:

What lessons have you learnt while using this LMS?

4.3.5.1 Subtheme A: Sharing of lessons using the GDE digital content platform

Participant 1 answered the abovementioned question: "Teachers can share lessons with their learners by sending the learners activities via their WhatsApp group that they created in their class". Unlike traditional teaching, educators can now share lessons because of this LMS. Once lessons are shared; learners can view the lessons anytime and anywhere as learning can still occur outside the classroom.

During non-participant observation, Participants 9, 11, and 12 also shared lessons with their learners through their WhatsApp group. Some learners did not have smart phones; therefore, they used their mini laptops. The information was, therefore, emailed to them, and they downloaded the lessons by using the school Wi-Fi.

4.3.5.2 Subtheme B: The learning management system as a user-friendly and time-saving strategy

In the answer to the online questionnaire, Participants 2 and 6 emphasised that the digital content platform saves timing and that it is user-friendly. Participants 3,4, and 5 mentioned that technology is the best because it enhances teaching and learning. They mentioned that technology improves their lives daily because it has helped them in easing the burden of preparing lessons and having to photocopy activities. Activities can now be shared with the learners through WhatsApp, emails, and Google Classroom.

In the non-participant observation, it was observed from Participants 7 to 12 that they found it easier to use the digital content platform as opposed to the traditional textbook teaching and that they experienced no difficulties in displaying their lessons and presenting the lesson to the learners. The learners found the lessons enjoyable as techniques, such as videos, audio, and the IQ interactive platform, were used by the participants. Participant 12 connected the laptop to the smartboard using the HDMI cable to display a VAT activity on their laptop, and teaching and learning proceeded successfully. The section below summarises the empirical findings.

4.4 SUMMARY OF EMPIRICAL FINDINGS

It is evident from the online questionnaires and the non-participant observation that the GDE digital content platform plays a pivotal role in improving learner performance. The educator-participants were motivated and interested in using the digital content platform to teach and learn. Moving away from traditional teaching methods has boosted teachers' confidence, required less preparation, and enabled more effective teaching for improved learning outcomes. Different techniques were used while teaching with the GDE digital content platform, and the learners interacted with the educators and among one another, which created an active environment for learning to transpire.

The data collected from the online questionnaire and the non-participant observation reveal that load-shedding was a common challenge experienced by educators when teaching and learning needs to occur. The two instruments supported on another as the non-participant observation supported similar data collected from the online questionnaire.

Technical glitches were another challenge the educators experienced; however, with the help of ICT technicians and ICT committee members, it lessened the burden of postponing the lesson for another day or proceed to teach using the whiteboard, which not all the classes had as the non-participant observation occurred. The educators relied primarily on the smartboard and the digital content platform as it contains ebooks, activities, videos, audio, and lessons used daily in a lesson. The recognition level in TPACK is evident here as educators recognise the GDE digital content platform as a valuable device in their teaching.

4.5 CONCLUSION

The chapter details the findings from the online questionnaire and the non-participant observation. This chapter discusses the themes and the subthemes emerging from the research questions. The first theme includes the educator's perception of the GDE digital content platform in improving learner performance. The educator-participants responded positively by emphasising that the GDE digital content platform yields a more significant improvement in learner performance as this is a new way of teaching that learners have adapted and find it easier to interact with the educator and their peers where teaching and learning is concerned. This creates collaboration, and learners can learn from one another.

The theme of what does the literature say regarding teaching before introducing the GDE digital content platform. This revealed that moving from the traditional teaching methods has improved the educator's confidence in teaching in the classroom as more teaching is conducted with the available lesson plans implemented from the GDE digital content platform. Educators no longer need to waste time preparing their own lessons as they are readily available on the platform. The theme of advantages of the

digital content platform also emerged, included by the subthemes of the learners' responses to the digital content platform and teaching methods.

The theme of the challenges experienced when using the GDE content platform emerged, and the common challenge that the participants mentioned was loadshedding. Load-shedding is a grave concern in South Africa, and the Department of Education needs to explore methods in how teaching and learning can proceed even though load-shedding has occurred, which can also assist the educators in not falling behind with the syllabus. Last, the theme mentioned was what lessons can be learnt from the GDE digital content platform. The participants mentioned how the platform was user-friendly and how it saved time. The participants mentioned how the lesson could be shared.

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 INTRODUCTION

The previous chapter describes the data analysed and presented for the study. This study was conducted at six Ekurhuleni North schools in Gauteng ICT schools. The study aimed to investigate the educators' use of the GDE digital content platform in Accounting to improve learner performance.

This concluding chapter presents a summary of the entire study. The essential elements are reflected, including the differences and similarities between the literature review and the empirical research regarding the educators' use of the GDE digital content platform in Accounting to improve learners. The study's conclusions will be based on the research questions that answered the aims and objectives in Section 1.6. This concluding chapter presents recommendations based on the findings, followed by the study limitations and recommendations for future research.

5.2 SUMMARY OF THE LITERATURE

The chapter review was conducted in Chapter 2, providing a solid foundation conceptually, theoretically, and methodologically. The theoretical framework used to support this study was the TPACK framework. This study also discussed the TPACK in teaching and learning and presented the TPACK framework diagram. This study further discusses the benefits and challenges in the TPACK framework, educational policy and practices, ICT training and support procedures, and ICT security.

In Section 2.2.1, the TPACK framework in the literature review is selected to support this study. Delgado (2016) established that teachers are motivated and interested in learning about technology integration owing to its flexibility and autonomy. The TPACK framework was a suitable framework to use in this study discussing issues of educators' use of an LMS to teach and learn. Niess, Lee, and Sadri (2007) describe the five levels of the developmental progression in TPACK, and the exploring level is where the educator will explore innovative ideas of teaching and learning.

The importance of discussing the benefits and challenges of the TPACK framework in the literature review was to identify if technology can cultivate an interactive place in the classroom. Responses confirm the benefits of the TPACK framework, allowing educators to design and implement instruction responsive to the needs of students while providing educators with a language or common vocabulary for communicating about activities related to technology integration. In support of the benefit mentioned, several authors (Bugueño, 2013; Mishra & Koehler, 2006; Waddel, 2015; Mareco, 2017) suggest that technology is observed as a device that helps in the learning process and helps students stay engaged.

In discussing the challenges of the TPACK framework, the researcher provided a clear observation and understanding of what educators and students can encounter when using technology to teach and learn in the classroom. As mentioned in Section 2.2.4, the challenges of the TPACK framework are the lack of qualified technology educators and the technical problems that can be encountered. In support of the challenges, Dhawan (2020) emphasises the demand for integrating technology because of the shift in learning modality; educators encountered several challenges, such as unequal distribution of ICT infrastructure, digital literacy and divided technology cost and quality of education. In the Literature review in section 2.4, Nwokike and Uwaneze (2016) recommended that the government should provide the needed technological facilities in secondary schools for teaching financial Accounting.

Addressing educational policy and practice, *the White Paper on e-Education: Transforming Learning and Teaching through ICTs* (Republic of South Africa, 2004) acts as the official governing policy on e-Education in South Africa. The policy is, therefore, relevant for this research as educators require technology skills for them to integrate these skills in the classroom.

The researcher included the ICT training and support procedure, as this is crucial as educators can improve their work performance and yield more significant results for their learners. IT interns stationed in the schools, along with the ICT committee, offer

support to the educators when encountering any technical glitches with the LMS. As mentioned in 2.3.1, the researcher is an ICT coordinator and, therefore, the statements are valid.

Last, the researcher solicited ICT security as this is crucial when technology devices are present in the schools. An alarm, CCTV cameras and the vault are the mechanisms to safeguard the devices. The researcher mentioned the process before receiving the students' laptops to retrieve the devices. Addressing faulty, lost, damaged or stolen devices was further elaborated in Section 2.3.2.

5.3 SUMMARY OF EMPIRICAL STUDY

The study includes the research methodology, measures of trustworthiness and ethical considerations. This qualitative study used non-participant observation and an online questionnaire with open-ended questions. The questions were developed using a Google Form and were sent to the participants through email and WhatsApp by using the Google Form link. 3.4.2 evaluates the data collection techniques employed.

The interpretive paradigm was used to understand and interpret educators' perspectives on the GDE digital content platform and the lessons that can be learnt. Creswell (2003) emphasised that the interpretivist/constructivist researcher tends to rely upon the "participants' observations of the situation being studied. This is evident in the study that the researcher relied on the data collected from online questionnaires and the non-participant observation (4.3). McMillan and Schumacher (2006) further emphasised the research methods being referred to, how data are collected and analysed, and the types of generalisations and representations derived from the data. The study focused on a qualitative approach. Ormston, Spencer, Barnard, and Snape (2014) emphasised that qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem.

The researcher used purposive sampling for this research. According to Campbell and Greenwood (2020), purposive sampling is used to select participants most inclined to yield appropriate and useful information. The researcher chose 12 qualified Accounting educators teaching Accounting as a subject and are using the GDE digital content platform for teaching and learning. Six schools engaged in the research. These six schools are ICT schools in Ekurhuleni North. Each school had two Accounting educators, of which one participated in the online questionnaire, and the other participant participated in the non-participant observation. The researcher selected the participants this way to receive the best data for this study, as the participants are all teaching Accounting using the GDE digital content platform. All participants were chosen based on their availability and convenience in participating in the study. The reason for a few educators teaching Accounting is because few students take Accounting as a subject.

The researcher used thematic analysis for this study. Braun and Clarke (2006) defined thematic analysis as a method for analysing qualitative data that entails searching across a data set to identify, analyse, and report repeated patterns. Braun and Clarke's (2006) six phases in the thematic analysis were used in the research:

- Phase 1: Data familiarisation
- —In the study, the researcher familiarised themselves with the data collected from the participants through the online questionnaire and the non-participant observation.
- Phase 2: Generating initial codes
- — Relevant data were collected, and codes were created to aid the study. These codes served as building blocks for analysis.
- Phase 3: Identifying themes
- —The researcher searched for important themes and subthemes from the data collected. These themes and subthemes are established in 4.3.
- Phase 4: Reviewing themes
- — The researcher evaluated whether the identified themes aligned with the codes extracted during Phase 2.

- Phase 5: Defining and naming themes
- — Clear definitions and names are assigned to each theme, enhancing their conceptual clarity.
- Phase 6: Producing the report
- —the researcher finalised the analysis produced and a report of the findings. Refer to Section 5.3.

The subsequent themes and subthemes present the responses received from the participants:

5.2.1 Educators' actual use of the GDE digital content platform

This is the first theme identified in the first research sub-question (SQ1):

What are educators' actual use of the GDE digital content platform?

The subthemes emerging from this theme are digital content platform skills and training, learner improvement in assessments and learner participation.

5.2.2 The educator's observation in using the GDE digital content platform

This is the second theme that materialised from the second sub-question in Chapter 1 (SQ2):

What are the educators' observations of using the GDE digital content platform?

The objective of this question was to explore educators' observations of the usefulness of the LMS for teaching and learning. The subthemes emerging from this theme are learners' response to the LMS and improving learner performance.

5.2.3 Advantages of using the digital content platform

The third theme is inspired by the SQ3:

What are the advantages of using the digital content platform in the FET Phase in Accounting?

The objective of this theme was to determine the advantages the educators experienced when using the GDE digital content platform. The subthemes emerging in this theme are the learners' response to the digital content platform, learners' task performance and teaching methods.

5.2.4 Challenges of using the digital content platform

These emerged from the fourth theme inspired by SQ4 question:

What are the challenges of using the digital content platform in the FET Phase in Accounting?

The objective of this theme was to identify the challenges that educators experienced when using the GDE digital content platform as a technique for teaching and learning. The subthemes emerging in this theme are technical glitches and load-shedding.

5.2.5 Lessons that can be learnt from educators when using the GDE digital content platform to improve learning

Emerged from the final theme inspired by SQ5:

What lessons can be learnt from educators when using the GDE digital content platform to improve learning?

The objective of this theme was to determine the lessons educators used to improve learner performance. The subthemes emerging in this theme were the sharing of lessons, user-friendly and saves time and lastly, the enhancement of teaching and learning.

The subthemes are summarised below. They were used in Theme 5:

- Subtheme A: Sharing of lessons using the learning management system
- Subtheme B: The learning management system as a user-friendly and timesaving strategy

5.2.5.1 Subtheme A: Sharing of lessons using the learning management system

Most participants emphasised sharing lessons with their learners by sending the learners activities through their WhatsApp group created in their class. Unlike traditional teaching, educators can now share lessons because of this LMS. Once lessons are shared, learners can view the lessons anytime and anywhere as learning can still occur outside the classroom. Learners without smartphones use their mini laptops, and the information is, therefore, emailed to them, and they download the lessons by using the school Wi-Fi.

5.2.5.2 Subtheme B: The learning management system as a user-friendly and timesaving strategy

On the online questionnaire, Participants 2 and 6 emphasised that the digital content platform saves timing and that it is user-friendly. Participants 3,4, and 5 mentioned that technology is the best because it enhances teaching and learning. Technology is improving their lives daily because it has helped them a lot in easing the burden of preparing lessons and having to photocopy activities. Activities can now be shared with the learners through WhatsApp, emails, and Google Classroom.

In the non-participant observation, it was observed from Participants 7 to12 found it easier to use the digital content platform and that they experienced no difficulties in displaying their lessons and presenting the lessons to the learners. The learners found the lessons enjoyable as techniques, such as videos, audio, and the IQ interactive platform used by the participants. Participant 8 connected the laptop to the smartboard by using the HDMI cable to display an activity in their laptop, and teaching and learning proceeded successfully. In the subsequent section summarises the measures of trustworthiness and ethical consideration.

The researcher further explains the measures of trustworthiness and ethical consideration. Transferability refers to how much the results of qualitative research can be transferred to other contexts with other participants—it is the interpretive equivalent of generalisability (Bitsch, 2005; Tobin & Begley, 2004). In the study, transferability was achieved by using multiple data sources. Transferability was ensured by notifying the participants about the research and what it entailed. Ethical clearance was granted by UNISA (Appendix A), and the Department of Education in Gauteng (Appendix D) granted permission for the research to occur in the ICT schools in Ekurhuleni North. Participants who have been identified for the study were issued with a letter entailing information about the research and an option of participating in the study. Participants' information was hidden to protect their anonymity and confidentiality. The researcher adhered to the anonymity and confidentiality of the participants, as no participant's name or the school's name is mentioned in the research. The letter entailing information regarding the research indicated that no benefits would be compensated to the participants.

5.3 SYNTHESIS OF RESEARCH FINDINGS

The previous section summarises the research methodology and research findings from the empirical study. This section synthesises the similarities and differences between the literature review and the empirical findings in Chapter 4. The similarities were in the advantages and challenges the educators experienced when using LMS as a form of teaching and learning. The other similarities were in the ICT skills and training.

Several studies in the literature reviewed in Section 2.4 reveals how useful LMS is in teaching and learning. As expressed by Cai (2012) and Mongwe (2022), e-learning allows students to study at home on their own time, having abundant teaching resources and easy-to-access information. The empirical study confirmed this aspect in Section 4.3.3. Theme 3: Advantages of using the digital content platform. The participants responded by emphasising how lessons are readily available on the

platform, sharing information and having more time dedicated to teaching than preparing for lessons.

In Section 2.4, Mongwe (2022) emphasises load-shedding and connectivity as the challenges encountered when using LMSs. The empirical study confirmed this in Section 4.3.4. In this section, Theme 4 discusses the challenges of using the LMS. The participants responded by emphasising load-shedding and technical glitches as contributing factors when using the LMS. The continuation of lessons became limited as most participants relied more on the LMS as textbooks were not used in their daily teaching.

In Section 2.4, Sethosa (2021) confirms that the data collected from the interviews reveal that a lack of ICT skills created a sense of feeling inferior for some educators and a fear of being humiliated in front of technologically advanced learners. In the empirical study, the participants emphasised that there are ICT technicians/interns who assist educators when they encountered technical problems. The participants also emphasised that the ICT committee at the schools also offer support regarding ICT issues.

5.4 CONCLUSIONS

This section discusses the research conclusions regarding the aim and research questions. Sections 1.4 and 1.5 present the main question and the five sub-questions. The research aimed to understand the educators' use of a digital content platform in improving learner performance in Accounting in Gauteng. The following sub-questions support the main research question (SQ1 to SQ5):

1. What are educators' actual use of the GDE digital content platform?
2. What are the educators' observations of using the GDE digital content platform?
3. What are the advantages of using the digital content platform in the FET Phase in Accounting?
4. What are the challenges of using the digital content platform in the FET Phase in Accounting?

What lessons can be learnt from educators when using the GDE digital content platform to improve learning?Themes and subthemes from participant responses support these sub-questions and are discussed separately in the following sections.

5.4.1 Sub-question 1 (SQ1): What are educators' actual use of the GDE digital content platform?

From the data collected from the participants, the GDE digital content platform enhanced teaching and learning in the classroom. The improvement of student's performance in the subject was one of the essential aspects when using this platform. Skills and training were needed to enable educators to be confident when teaching with this LMS. When using this LMS, the participants discovered that the students participated more in class, and they were enthusiastic to learn. This was evident from the researcher's non-participant observation, where the researcher identified the participation, the students experienced with the educator while teaching and learning took place in the classroom.

5.4.2 Sub-question 2 (SQ2): What are the educators' observations of using the GDE digital content platform?

Participants' experience regarding the GDE digital content platform was to embrace the technological way of teaching and learning in the classroom. This enabled them to teach more rather than planning lessons, which in the past was time-consuming for educators. With the GDE digital content platform, the participants found it easier to teach as the lessons were readily available. This study also concludes that the participants prefer to use the GDE digital content platform as it has made their teaching more interesting, and students can participate in class.

5.4.3 Sub-question 3 (SQ3): What are the advantages of using the digital content platform in the FET Phase in Accounting?

The study participants perceived the LMS as an innovative teaching approach, distinct from the traditional methods involving textbooks and blackboards. The presence of on-

site ICT technicians or interns was advantageous, ensuring prompt assistance during technical issues. Consequently, teachers could seamlessly continue their lessons. The availability of pre-existing lesson plans on the platform reduced the need for extensive lesson preparation by the participants.

5.4.4 Sub-question 4 (SQ4): What are the challenges of using the digital content platform in the FET Phase in Accounting?

Based on the data collected, two primary challenges associated with using the LMS were technical glitches and load-shedding. South Africa has been grappling with loadshedding since 2007. Unfortunately, load-shedding disadvantaged the participants, as they increasingly relied on the LMS over traditional textbooks. Technical glitches arose during classroom teaching sessions. The ICT technicians and interns would inform educators that load-shedding significantly contributed to the LMS malfunctions.

Sub-question 5 (SQ5): What lessons can be learnt from educators when using the GDE digital content platform to improve learning?Participants emphasised the importance of lesson sharing through the LMS to enhance learning. When students can access lessons on their devices, they can conveniently revisit the content whenever needed. The GDE digital content platform is distinguished as a user-friendly and time-saving device for teaching and learning. As an educator-researcher, recognising such user-friendly devices is crucial, as it facilitates effective teaching and allows for prompt inclusion of relevant content.

Main research question: How do educators use a digital content platform to improve learner performance in Accounting in Gauteng?The participants emphasised the significance of sharing lessons as a means for students to enhance their understanding of Accounting. The researcher established that when students have access to relevant information, they can revisit it conveniently, particularly when preparing for class tests or examinations. This approach reduces the burden on educators, as they do not need to teach topics repeatedly. Students can now work and study independently, attributable to the LMS. Using the LMS has minimised the need

for photocopying class activities. Participants emphasised that activities and lessons were effectively shared through the class WhatsApp group.

5.5 LIMITATIONS OF THE STUDY

According to Ross and Zaidi (2019), limitations represent weaknesses within the study that may influence the outcomes and conclusions of the research. First, the study concentrated on educators teaching Accounting. The results could have differed if the researcher also focused on educators teaching mathematics, life sciences, or geography, as these subjects require diagrams, pictures, or videos to be observed, which would make the lesson more enjoyable for the students. Despite this limitation, the goal was to acquire an in-depth understanding of educators' use of the digital content platform to improve learner performance in Gauteng, and the researcher believes that the study contributed to this. A smaller number of participants limited the findings as the researcher only focused on 12 participants. These results could have been different in other parts of Gauteng as more participants could have been available to participate in this research.

Second, participants who agreed to participate in the online questionnaire delayed responding to the online link. The researcher called and sent WhatsApp messages to remind the participants to complete the questionnaire. Less time was spent on researching as the participants caused a delay in the study analysis, although it is believed this research produced valuable data and added to the knowledge of teaching using an LMS.

Third, due to the lack of previous studies in the research area, the GDE digital content platform has not been researched by others. Other LMSs, such as Siyavula, have been researched and more data are available. The research on other LMS's assisted in conducting this study. Although this was a limitation, it allowed the researchers to contribute to this study.

5.6 RECOMMENDATIONS

According to Hassan (2024), research recommendations refer to suggestions or advice provided to someone looking to research a specific topic or area. These recommendations may include suggestions for research methods, data collection techniques, sources of information, and other factors that can help to ensure that the research is conducted rigorously and effectively. Based on the study findings, this research makes recommendations relating to the educators' use of the GDE digital content platform to improve learner performance in Gauteng. These recommendations should be considered guidelines for the GDE ICT department and ICT schools in Gauteng.

5.6.1 Recommendation to Gauteng Department of Education ICT Department

The ICT department should encourage educators to use the GDE digital content platform more effectively. More workshops should be implemented to encourage educators and students to be active in this platform. One workshop once a term will also encourage new educators to teach their students effectively.

5.6.2 Recommendations to information and communications technology committees

Educators can encourage one another to use this LMS, especially the novice and the technology illiterate educators. ICT committees stationed in the schools also need to encourage educators to teach the students using this LMS. The ICT team from the district can also encourage the educators by workshopping them once a term. The ICT committees in the schools need also to update the ICT policy as technology advances.

5.7 SUGGESTIONS FOR FURTHER RESEARCH

The research was limited to six ICT schools in Ekurhuleni North with 12 participants. Additional qualitative research is required on the students and educators to obtain a different perception of the participants. Educators teaching various subjects are also

recommended that more research be conducted on such participants. Research can also be undertaken in primary schools to compare the influence of the GDE digital content platform. Challenges of using the GDE digital content platform are exposed in the subthemes. Research is required to investigate how participants can overcome these challenges while using the GDE digital content platform.

5.8 CONCLUSION

This study investigated educators' use of the GDE digital content platform in Accounting to improve learner performance in Gauteng. This qualitative study collected data from 12 participants through an online questionnaire and a nonparticipant observation. The non-participant observation took place in six schools in Ekurhuleni North. All the participants were qualified Accounting educators who used the LMS for teaching and learning. The thematic data analysis was used to identify the themes and subthemes in the study to produce the findings presented by the researcher. According to the findings, the GDE digital content platform assisted educators in teaching learners using technology, and it saved them time from preparing lessons as lessons were readily available on the platform. This study also concluded that students interacted more effectively when the LMS was used as videos and audio were used for teaching.

The study also concluded that educator-participants responded positively by emphasising that the GDE digital content platform yields a more significant improvement in learner performance as this was a new way of teaching that learners had adapted and found it easier to interact with the educator and their peers where teaching and learning is concerned. This created collaboration, and learners learnt from one another. The theme of what does the literature indicate regarding teaching before the introduction of the GDE digital content platform revealed that moving from traditional teaching methods improved the educator's confidence in teaching in the classroom as more teaching was conducted with the available lesson plans implemented from the GDE digital content platform.

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APPENDICES

Appendix A: Ethical clearance certificate

UNISA university of south africa

UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2023/09/06

Ref: **2023/09/06/61271047/31/AM**
Name: Ms MP Raseala
Student No.:61271047

Dear Ms MP Raseala

Decision: Ethics Approval from 2023/09/06 to 2026/09/06

Researcher(s): Name: Ms MP Raseala
E-mail address: 61271047@mylife.unisa.ac.za
Telephone: 074 725 2745

Supervisor(s): Name: Prof. G. Van den Berg
E-mail address: Vdberg@unisa.ac.za
Telephone: 012 429 4895

Name: Prof. P.K Mudau
E-mail address: mudaupk@unisa.ac.za
Telephone: 012 429 8898

Title of research:

Educators' use of a Digital Content Platform in Accounting in the FET Phase to improve learner performance in Gauteng

Qualification: MEd Open Distance Learning

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2023/09/06 to 2026/09/06.

*The **medium risk** application was reviewed by the Ethics Review Committee on 2023/09/06 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

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

2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
3. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.
4. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
5. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.
6. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
7. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
8. No field work activities may continue after the expiry date **2026/09/06**. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:
The reference number **2023/09/06/61271047/31/AM** *should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Kind regards,

Prof AT Motlhabane
CHAIRPERSON: CEDU RERC
motlhat@unisa.ac.za

Prof Mpine Makoe
EXECUTIVE DEAN
qakisme@unisa.ac.za

Approved - decision template – updated 16 Feb 2017

University of South Africa
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Appendix B: Permission to conduct research

UNISA university of south africa

APPENDIX B: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT ICT SECONDARY SCHOOLS IN THE EKURHULENI NORTH DISTRICT IN GAUTENG

Research title: Educators' use of a Digital Content Platform in Accounting in the FET Phase to improve learner performance in Gauteng

Date: 5 October 2023

Ms. Mchunu

Contact details: Tel: (011) 355 1379 Hotline: 0800 000 789

Email: busi.mchunu@gauteng.gov.za

Dear Ms. Busi Mchunu

I Matepe Phylllistus Raseala am doing research under supervision of Geesje van den Berg, a Professor in the Department of Curriculum and Instructional Studies towards a Masters Degree at the University of South Africa. We are inviting you to participate in a study titled; Educators' use of a Digital Content Platform in Accounting in the FET Phase to improve learner performance in Gauteng.

The aim of the study is to determine if the Digital Content Platform yields great improvement in a learner doing Accounting in the FET Phase.

Your department has been selected because the Digital Content Platform is an LMS that ICT schools in Gauteng use and your department specialises in ICT.

The study will entail a non-participant observation and an online questionnaire.

The benefits of this study are to determine that technology in high school is indeed beneficial to a learner and the educators where teaching and learning is concerned.

There are no potential risks pertaining to this study. There will be no reimbursement

or any incentives for participation in the research.

Appendix C: Consent to participate

UNISA

CONSENT/ASSENT TO PARTICIPATE IN THIS STUDY (Return slip)

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

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

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

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

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

I agree to the recording of the non-participant observation and online questionnaires.

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

Participant Name & surname (please print)

_____

_____ _____

Participant Signature Date

Matepe Phyllistus Raseala

Researcher's signature Date

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
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Appendix D: Gauteng Department of Education research approval letter

GAUTENG PROVINCE
Department: Education
REPUBLIC OF SOUTH AFRICA

8/4/4/1/2

GDE RESEARCH APPROVAL LETTER

Date:	**27 October 2023**
Validity of Research Approval:	**08 February 2024– 30 September 2024** **2023/477**
Name of Researcher:	**Raseala MP**
Address of Researcher:	**500 Scarab Street**
	Delmore Park/Boksburg
Telephone Number:	**072 386 9268/074 725 2745**
Email address:	**phyllistusm@gmail.com / 61271047@mylife.unisa.ac.za**
Research Topic:	**Educators use of a digital Content Platform in Accounting in the FET Phase to improve learner performance in Gauteng**
Name of University:	**UNISA**
Type of qualification	**Masters**
Number and type of schools:	**6 Secondary Schools**
District/s/HO	**Ekurhuleni North**

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

27/10/2023

The following conditions apply to GDE research. The researcher may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

Making education a societal priority

Office of the Director: Education Research and Knowledge Management
7th Floor, 17 Simmonds Street, Johannesburg, 2001
Tel: (011) 355 0488
Email: Faith.Tshabalala@gauteng.gov.za
Website: www.education.gpg.gov.za

1. *Letter that would indicate that the said researcher/s has/have been granted permission from the Gauteng Department of Education to conduct the research study.*
2. *The District/Head Office Senior Manager/s must be approached separately, and in writing, for permission to involve District/Head Office Officials in the project.*
3. ***Because of the relaxation of COVID 19 regulations researchers can collect data online, telephonically, physically access schools or may make arrangements for Zoom with the school Principal. Requests for such arrangements should be submitted to the GDE Education Research and Knowledge Management directorate.***
4. ***The Researchers are advised to wear a mask at all times, Social distance at all times, Provide a vaccination certificate or negative COVID-19 test, not older than 72 hours, and Sanitise frequently.***
5. *A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB) that would indicate that the researcher/s have been granted permission from the Gauteng Department of Education to conduct the research study.*
6. *A letter / document that outline the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned, respectively.*
7. *The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, and chairpersons of the SGBs, teachers and learners involved. Persons who offer their co-operation will not receive additional remuneration from the Department while those that opt not to participate will not be penalised in any way.*
8. *Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal (if at a school) and/or Director (if at a district/head office) must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.*
9. *Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.*
10. *Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.*
11. *It is the researcher's responsibility to obtain written parental consent of all learners that are expected to participate in the study.*
12. *The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.*
13. *The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.*
14. *On completion of the study the researcher/s must supply the Director: Knowledge Management & Research with one Hard Cover bound and an electronic copy of the research.*
15. *The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned.*
16. *Should the researcher have been involved with research at a school and/or a district/head office level, the Director concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.*

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

.....

Dr. Gumani Mukatuni
Acting CES: Education Research and Knowledge Management

DATE: 27/10/2023

Office of the Director: Education Research and Knowledge Management
7th Floor, 17 Simmonds Street, Johannesburg, 2001
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Appendix E: Online questionnaires

1. AGE

20-35

36-40

41-50

51-65

2. GENDER FEMALE

MALE

3. YEARS OF EXPERIENCE TEACHING ACCOUNTING

4. HAVE YOU RECEIVED TRAINING ON HOW TO USE THE GDE DIGITAL CONTENT PLATFORM EFFECTIVELY?

5. HOW OFTEN DO YOU USE THE GDE DIGITAL CONTENT PLATFROM AND WHICH CONTENT IS MORE HELPFUL?

6. HOW MANY YEARS HAVE YOU BEEN USING THE DIGITAL CONTENT PLATFORM?

7. HOW DOES THIS LMS IMPROVE LEARNER PERFORMANCE IN ACCOUNTING?

8. WHY OR WHY NOT WOULD YOU RECOMMED THIS LMS TO OTHER EDUCATORS TEACHING ACCOUNTING?

9. WHAT ARE THE ADVANTAGES OF USING THE GDE DIGITAL CONTENT PLATFORM?

10. WHAT ARE THE DISADVANTAGES OF USING THE GDE DIGITAL CONTENT PLATFORM?

11. HOW DO YOUR LEARNERS RESPOND WHEN TEACHING USING THIS LMS?

Appendix F: Observation sheet

SECTION A: DEMOGRAPHIC INFORMATION

1. AGE

   20 to 35

   36 to 40

   41 to 50

   51-65

2. GENDER

   FEMALE

MALE

3. YEARS OF EXPERIENCE TEACHING ACCOUNTING
4. NUMBER OF YEARS USING THE GDE DIGITAL CONTENT PLATFORM
5. GRADE TAUGHT IN ACCOUNTING

SECTION B: LEVEL OF THE EDUCATORS GDE DIGITAL CONTENT PLATFORM UTILISATION IN THE CLASSROOM

LEVEL OF GDE DIGITAL CONTENT PLATFORM UTILISATION	INDICATOR OR BRIEF DESCRIPTOR	YES (DESCRIPTION OF THE PROCESS)	NO
BASIC LEVEL	• CAN THE EDUCATOR OPEN AND USE THE GDE DIGITAL CONTENT PLATFORM?		
	• ARE VIDEOS, AUDIO OR IMAGES USED IN THE LESSON?		
INTERMEDIATE LEVEL	• DOES THE LESSON PRESENTATION USE VARIOUS RESOURCES (EBOOKS, DIGITAL LESSONS, ASSESSMENTS, MIND THE GAP STUDY		
LEVEL OF GDE DIGITAL CONTENT PLATFORM UTILISATION	**INDICATOR OR BRIEF DESCRIPTOR**	**YES (DESCRIPTION OF THE PROCESS)**	**NO**
	GUIDES ETC.) TO SUPPORT TEACHING AND LEARNING?		
	• ARE THE LEARNERS ABLE TO INTERACT WITH THE EDUCATOR WHILE USING THIS LMS?		
ADVANCED LEVEL	• DOES THE EDUCATOR ENCOURAGE DIGITAL HOMEWORK, RESEARCH OR ASSESSMENTS?		
	• DO THE LEARNERS RESPOND WELL TO THE DIGITAL LESSON?		

Appendix G: Online questionnaire transcript

1. AGE
   20 to 35
   36 to 40
   41 to 50
   51-65
2. GENDER
   FEMALE
   MALE
3. YEARS OF EXPERIENCE TEACHING ACCOUNTING?
   14 YEARS
4. HAVE YOU RECEIVED TRAINING ON HOW TO USE THE GDE DIGITAL CONTENT PLATFORM EFFECTIVELY?
   YES
5. HOW OFTEN DO YOU USE THE GDE DIGITAL CONTENT PLATFROM AND WHICH CONTENT IS MORE HELPFUL?
   I USE IT DAILY FOR MY TEACHING. THE E-BOOKS AND THE LESSON PLANS ARE MORE USEFUL.
6. HOW MANY YEARS HAVE YOU BEEN USING THE DIGITAL CONTENT PLATFORM? 7 YEARS
7. HOW DOES THIS LMS IMPROVE LEARNER PERFORMANCE IN ACCOUNTING?
   LEARNERS ARE PROACTIVE IN CLASS WHICH ENABLES THEM TO WORK IN A TEAM. THE LEARNER HAVE ACCESS TO THE PLATFORM AND THEY ARE ABLE TO USE IT ANYTIME AND ANYWHERE.
8. WHY OR WHY NOT WOULD YOU RECOMMED THIS LMS TO OTHER EDUCATORS TEACHING ACCOUNTING?
   THIS LMS IS VERY USEFUL BECAUSE YOU ARE ABLE TO ENGAGE WITH YOUR LEARNERS AND IT MAKES TEACHING AND LEARNER VERY EASIER OF OUR LEARNERS.
9. WHAT ARE THE ADVANTAGES OF USING THE GDE DIGITAL CONTENT PLATFORM?
   NO NEED TO PREPARE LESSONS BECAUSE LESSONS ARE ALREADY ON THE PLATFORM. YOU ARE ABLE TO INTERACT WITH THE LEARNERS. LEARNERS FIND IT EASIER TO LEARN ON THE SMARTBOARD AS OPPOSED TO THE TEXTBOOK.
10. WHAT ARE THE DISADVANTAGES OF USING THE GDE DIGITAL CONTENT PLATFORM?
    TECHNICAL PROBLEMS DO ARISE AND IT MAKES IT DIFFICULT FOR A LESSON TO CONTINUE.
11. HOW DO YOUR LEARNERS RESPOND WHEN TEACHING USING THIS LMS?
    MY LEARNERS RESPOND POSITIVELY BECAUSE THEY CAN BE ABLE TO INTERACT WITH ME AND ALSO AMONG EACH OTHER AND TEACHING AND LEARNING BECOMES INTERESTING.
12. HOW OFTEN DO YOU DO YOU GIVE LEARNERS TASKS WHICH PROMPT THEM TO USE THE INTERNET AND THE LAPTOP EFFECTIVELY?
    3 TIMES A WEEKS
13. WHAT LESSONS HAVE YOU LEARNT WHILE USING THIS LMS?
    I AM ABLE TO SHARE THE LESSONS WITH MY LEARNERS BY SENDING THEM THE ACTIVITIES VIA THEIR WHATSAPP GROUP THAT I HAVE CREATED FOR THEIR CLASS.
14. DO YOU THINK OTHER EDUCATORS ARE AWARE OF THE ICT POLICY AS A GUIDE TO TEACHING AND LEARNING?
    YES
15. DOES THE SCHOOL HAVE AN ICT POLICY WHICH ACTS AS A GUIDELINE ON HOW TO INTERGRATE ICT EFFECTIVELY WITHIN THE SCHOOL? YES
16. DOES THE SCHOOL HAVE AN ICT COMMITTEE? IF YES DOES THE COMMITTEE SUPPORT THE EDUCATORS WHERE ICT IS CONCERNED?

YES, THE ICT COMMITTEE IS HELPFUL AND THEY ALSO UPDATE US WHERE ICT ISSUES ARE CONCERNED.

17. ARE THERE ICT TECHNICIANS/INTERNS THAT ARE ABLE TO ASSIST EDUCATORS WHEN THEY ENCOUNTER TECHNICAL ISSUES?
    YES, AND THEY ARE VERY HELPLFUL AS THEY ARE AVAILABLE AT THE SCHOOL.

Appendix H: Letter from language editor

Nr: 202842

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LANGUAGE EDITING CERTIFICATE

Report title:	EDUCATORS' USE OF A DIGITAL CONTENT PLATFORM IN ACCOUNTING TO IMPROVE LEARNER PERFORMANCE IN GAUTENG
Author/s:	MATEPE PHYLLISTUS RASEALA
Institution:	University of South Africa (UNISA)
Date Issued:	10 February 2024

This document certifies that the manuscript listed above was edited for proper English language, grammar, punctuation, spelling, and overall style. Neither the research content nor the author's intentions were altered in any way during the editing process. Documents receiving this certification should be English ready for publication; however, the author has the ability and choice to accept or reject our suggestions and changes.

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Warm regards

Elizabeth Marx

SAFREA regional committee member (2020 & 2023); Represented South Africa in the EFA International Editors' Conference – Chicago: August 2019 https://www.the-efa.org/efas-2019-conference-announcement/