

# Exploring the challenges of implementing an e-learning administrative system in public schools

**AP Gaanakgomo**

 [orcid.org/0000-0003-2162-953X](https://orcid.org/0000-0003-2162-953X)

Mini-dissertation accepted in partial fulfilment of the  
requirements for the degree [Master of Business  
Administration](#) at the North-West University

Supervisor: Dr N Ndlovu

Graduation: June 2023

Student number: 20812388

## **ACKNOWLEDGEMENTS**

First and foremost, Lord, thank you for your strength, courage, patience, and grace throughout this journey. I would not have gotten this far without you, Lord.

I would like to thank and acknowledge my supervisor, Dr Kaizer Ndlovu, for his guidance, support, and supervision throughout this year with my dissertation. The time spent to make sure that I put in the hard yards to complete my research is something for which I am truly grateful to you, Dr Ndlovu. Thank you to the Director of the Department of Education of the Dr Kenneth Kaunda District, who granted me the opportunity and permission to do my research in the public schools under his management; it would not have been possible without your permission. Thank you to the educators who made it possible and participated in my research; without you all, there would not have been a mini dissertation, and therefore I am grateful.

Thank you to my wonderful parents, Abel, and Gladys Van Der Linde, for filling my shoes while I was studying and ensuring the well-being of my children. Your love, care, and sacrifices kept me going and ensured that I finished my studies. I shall be forever thankful to both of you, "my fans." Thank you, Mommy, for always being proud of me and reminding me that nothing in life is free and, hardships always bear the greatest fruits, and for that to be successful one should be determined and focused. I will forever be thankful to my grandmother, Mina Matras, who encouraged me to work and study, it didn't make sense then and today it paid off, thank you granny for everything. Thank you to my little-big brother Samuel Gaanakgomo for always believing in me and for your encouragement, love, and support. It's something that every sister aspires to have from a brother, and I was naturally blessed with it by God. Thank you to my two elder sisters, Wilma, and Sonia, who always regarded me as the family light and looked up to me.

To my dear partner, Otumile Phiri, thank you for the support you have given me, my love, and for encouraging me to keep going when I felt like giving up. The love, support, patience, and selflessness that you have shown me are what made me to never give up; I am blessed to have you. I'm grateful to my children, Katlego, Mpho, and Kutlwano, for their patience when I couldn't always be home or spend as much time with you as I should. Thank you Katlego for helping mommy with your siblings and

assisting them with their schoolwork when I was unable to. You are my A-TEAM, love you always.

Mr Cornelius Gaanakgomo this one is for you papa; I know you would have been so proud of me Sir. May your soul continue to RIP Papa. MmeKebalepile Phiri, my MamaKebz thank you for the times you allowed me to study in your dining room, where you would grace me with your love, remind us to take a break and eat, during that time you will make funny jokes to calm the nerves, especially before exams. The support you have given me was more than what I deserve. You have shown me so much love Mama. You might be gone, but your teachings and memories will forever live on. May your beautiful soul continue to RIP.

I would not have made it without you Mr. Tebogo Tebejane, you are truly a great asset to the NWU Business School and an inspiration to me. Your support, your positive attitude and calmness is what kept me going, hope you continue to do it for others, may God bless you. To the lecturers who shared their knowledge during my MBA, thank you and my friends and colleagues, who always reminded me that there is so much to me. My manager Mrs Riana Muller thank you for your support and, for pushing me to complete this qualification you are a true leader boss lady.

Lastly thank you, Ms Teresa Kapp, my language editor for your assistance and the calmness you have shown, the priceless is that you did not do it for the money instead you gave me so much support.

## **ABSTRACT**

The aim of the study was to determine the challenges of implementing an online administrative system for public school educators. The secondary research objectives were to examine how an online administrative system works, the effect an online administrative system will have on educators, and recommendations to improve the current state of educators' administration by implementing the online administrative system. For this study, the researcher adopted a qualitative approach, collecting data through a telephonic interview in pairs of 3 to 4 with a sample of 12 participants drawn from the population of primary and secondary public-school educators in the Dr Kenneth Kaunda District of the North West Province.

The qualitative data were analysed using thematic analysis. The research findings revealed that the system has both positive and negative effects on educators and learners, due to a lack of skills and available resources. The findings revealed that the online system is cost-effective, improves learner performance in public schools, and makes educators more productive. Amongst the recommendations are: (1) that the Department of Education capacitate educators and learners with basic computer skills that will enable them to effectively use the e-learning administrative system and (2) ensure that there are proper plans in place to maintain the system for its sustainable use in public schools.

**Keywords:** e-learning; administrative system; educators; public schools

## TABLE OF CONTENT

ACKNOWLEDGEMENTS .....	i
ABSTRACT .....	iii
CHAPTER 1 .....	1
INTRODUCTION AND BACKGROUND TO THE STUDY .....	1
1.1 CHAPTER INTRODUCTION.....	1
1.2 SIGNIFICANCE OF STUDY.....	2
1.3 PROBLEM STATEMENT .....	3
1.4 RESEARCH AIMS AND OBJECTIVES .....	4
1.4.1 Research aim.....	4
1.4.2 Research objectives .....	4
1.5 RESEARCH QUESTIONS .....	4
1.6 DELIMITATIONS OF THE RESEARCH .....	5
1.7 OUTLINE OF THE DISSERTATION.....	5
1.8 CHAPTER SUMMARY .....	6
CHAPTER 2 .....	7
LITERATURE REVIEW .....	7
2.1 CHAPTER INTRODUCTION.....	7
2.2 E-Learning and Administrative System .....	7
2.3 Teachers' classroom and administrative responsibilities .....	8
2.4 The importance of an online administrative system.....	10
2.5 The benefits of an online administrative system .....	11
2.6 Challenges and Opportunities of an e-learning administrative system.....	12
2.7 Implementation of an administrative system.....	14
2.8. The government's position on e-learning and the use of online administration .....	16
2.9. Adoption of technology theories .....	16
2.10. The study's research gaps .....	17
2.11. CHAPTER SUMMARY .....	18
CHAPTER 3 .....	19
RESEARCH METHODOLOGY.....	19
3.1 CHAPTER INTRODUCTION.....	19
3.2 RESEARCH PHILOSOPHY .....	19
3.2.1 Research Approach.....	19
3.2.1.1 Trustworthiness .....	20
3.2.1.2 Credibility .....	20
3.2.1.3 Transferability .....	21

3.2.1.4	Dependability .....	21
3.2.1.5	Confirmability .....	22
3.3	RESEARCH DESIGN .....	22
3.4	POPULATION AND SAMPLING .....	23
3.4.1	Population .....	23
3.4.2	Sampling .....	23
3.5	DATA COLLECTION .....	24
3.5.2.3	Data Coding and Analysis .....	25
3.6	ETHICAL CONSIDERATIONS .....	27
3.8	CHAPTER SUMMARY .....	28
CHAPTER 4 .....		29
DATA ANALYSIS AND PRESENTATION OF FINDINGS .....		29
4.1	CHAPTER INTRODUCTION .....	29
4.2	PRESENTATION OF FINDINGS .....	29
4.2.1	Description of Participants' Demographics .....	29
4.3	THEMATIC ANALYSIS .....	31
4.3.1.2	Online administrative system .....	35
4.3.1.2.1	Benefits of online administrative system .....	35
4.3.1.2.2	Challenges of online administrative system in public schools .....	38
4.4	EFFECT OF ONLINE ADMINISTRATIVE SYSTEM IN PUBLIC SCHOOLS .....	40
4.4.1	Positive effect of online administrative system .....	41
4.4.1.1	Educator productivity .....	41
4.4.1.2	Improve teaching and learning .....	42
4.4.2	Negative effect of an online administrative system .....	46
4.4.2.1	Lack of resources .....	46
4.5	PROPOSED IMPROVEMENT OF EDUCATOR ADMINISTRATION IN PUBLIC SCHOOLS .....	52
4.6	DISCUSSION OF FINDINGS .....	56
4.8	CHAPTER SUMMARY .....	59
CHAPTER 5 .....		60
CONCLUSIONS AND RECOMMENDATIONS .....		60
5.1	CHAPTER INTRODUCTION .....	60
5.2	RESEARCH QUESTIONS RESOLUTIONS .....	60
5.3	RECOMMENDATIONS .....	63
5.4	STUDY LIMITATIONS .....	63
5.5	FUTURE RESEARCH .....	64

5.6 CONCLUDING REMARKS..... 64

6. REFERENCES ..... 65

ANNEXURE A: PERMISSION LETTER TO CONDUCT RESEARCH ..... 78

ANNEXURE B: INTERVIEW CONSENT FORM..... 79

ANNEXURE C: INTERVIEW GUIDE..... 80

ANNEXURE D: LANGUAGE EDITING CERTIFICATE..... 85

ANNEXURE E: ETHICS CERTIFICATE ..... 86

## LIST OF FIGURES

<i>FIGURE 1: A MODEL OF THE EFFECTS OF EDUCATIONAL STRESSES ON TEACHERS' INTERPERSONAL BEHAVIOURS AND STUDENTS' MOTIVATION</i>	10
<i>FIGURE 2: QUALIFICATIONS OF PARTICIPANTS</i>	30
<i>FIGURE 3: PARTICIPANTS' YEARS OF EXPERIENCE</i>	30
<i>FIGURE 4: PARTICIPANTS' QUOTES ON THE MANUAL ADMINISTRATION SYSTEM</i>	33
<i>FIGURE 5: NETWORK QUOTES OF MANUAL ADMINISTRATION SYSTEM</i>	35
<i>FIGURE 6: PARTICIPANTS' QUOTES ON THE BENEFITS OF AN ONLINE ADMINISTRATIVE SYSTEM</i>	36
<i>FIGURE 7: NETWORK QUOTES REGARDING THE BENEFITS OF IMPLEMENTING AN ONLINE ADMINISTRATIVE SYSTEM IN PUBLIC SCHOOLS</i>	38
<i>FIGURE 8: PARTICIPANTS' QUOTES ON CHALLENGES OF AN ONLINE ADMINISTRATIVE SYSTEM IN PUBLIC SCHOOLS</i>	39
<i>FIGURE 9: NETWORK QUOTES OF CHALLENGES OF THE ONLINE ADMINISTRATIVE SYSTEM</i>	40
<i>FIGURE 10: PARTICIPANTS' QUOTES ON POSITIVE EFFECT OF ONLINE ADMINISTRATIVE SYSTEM</i>	41
<i>FIGURE 11: NETWORK QUOTES REGARDING EDUCATOR PRODUCTIVITY</i>	42
<i>FIGURE 12: PARTICIPANTS' QUOTES ON IMPROVED TEACHING AND LEARNING</i>	43
<i>FIGURE 13: NETWORK QUOTES FOR IMPROVED TEACHING AND LEARNING</i>	44
<i>FIGURE 14: IMPROVED SUPPORT TO LEARNERS</i>	45
<i>FIGURE 15: NETWORK QUOTES FOR IMPROVED LEARNER SUPPORT</i>	46
<i>FIGURE 16: PARTICIPANTS' QUOTES ON LACK OF RESOURCES</i>	47
<i>FIGURE 17: NETWORK QUOTES OF LACK OF RESOURCES</i>	48
<i>FIGURE 18: PARTICIPANTS' QUOTE ON LACK OF EDUCATOR SKILLS</i>	49
<i>FIGURE 19: NETWORK QUOTES OF LACK OF EDUCATOR SKILLS</i>	50
<i>FIGURE 20: PARTICIPANTS' QUOTES ON LACK OF LEARNER SKILLS</i>	51
<i>FIGURE 21: NETWORK QUOTES OF LACK OF LEARNER SKILLS</i>	52
<i>FIGURE 22: PARTICIPANTS' QUOTES ON THE IMPLEMENTATION OF THE ONLINE ADMINISTRATIVE SYSTEM FOR TEACHING AND LEARNING IN PUBLIC SCHOOLS</i>	53
<i>FIGURE 23: NETWORK QUOTATION OF THE IMPLEMENTATION OF THE ONLINE ADMINISTRATIVE SYSTEM FOR TEACHING AND LEARNING IN PUBLIC SCHOOLS</i>	55

## LIST OF TABLES

<i>Table 1.1: Key Terms</i> .....	x
<i>Table 2.1: Framework of Rigour in Qualitative Research</i> .....	27
<i>Table 3.1: Identified themes and sub-themes</i> .....	31

## LIST OF ABBREVIATIONS

EMS-REC	Economic and Management Sciences Research Ethics Committee
DKK	Dr Kenneth Kaunda
DoE	Department of Education
NWP	North West Province
NWU	North-West University
POPIA	Protection of Personal Information Act 4 of 2013
ICT	Information and Communication Technology
DIT	Diffusion of Innovations
TRA	Theory of Reasonable Action
TAM	Technology Acceptance Model
MOE	Ministry of Education
LMS	Learning Management Systems

## Definition of Key concepts

Table 1.1: Key Terms

Term	Definition
implementation	The process of putting a decision or plan into action
e-learning	Electronic learning, which is online learning that may be accessed through a computer or other electronic device, also known as <i>online education</i>
administrative system	A system to manage filing and record-keeping, office correspondence, visitor- and phone-call management, internal communication, financial management, and other administrative activities
educators	A teacher, principal, or other person involved in the planning or direction of education
public school	An elementary and secondary schools in a free public education system, maintained at public expense for the education of the children of a town or district

# CHAPTER 1

## INTRODUCTION AND BACKGROUND TO THE STUDY

### 1.1 CHAPTER INTRODUCTION

Most educators must transition from traditional classroom administration education to an online learning environment. This paper discusses how some of the problems and consequences of one-to-one laptop school leadership and instruction might be used to develop a distant learning environment alongside current instructional standards. School educators are urged to co-operate and help build a common vision of good online education and to put in place complementary frameworks that will enable the evaluation of online teaching and learning (Gonzales & Jackson, 2020).

According to Imhangbe *et al.* (2020), Kant stated that teachers have a variety of tasks. Their obligations frequently extend beyond the duty of teaching and promoting learning, and include responsibilities not directly related to teaching. The educators' task performance is measured by how they respond to and carry out these tasks and obligations. Teachers' responsibilities are divided into instructional obligations and administrative duties. While teachers' administrative duties include running assembly ground activities, managing the school laboratory and workshop, planning the year's programme, managing finances, developing projects, planning extracurricular school activities, and setting the agenda for staff meetings, among other things, teachers' instructional duties include classroom teaching, lesson preparation, student supervision, and syllabus interpretation.

In the USA, Georgia's general education system is built on obligatory software for all residents. Children begin school at the age of six and learn at the primary level for four years. They then move on to middle school, which is obligatory for all students, from fifth to ninth grade. Secondary education encompasses classes 10 through 12. The country's projected years of schooling are 15.4, with an average of 12.8 (UNDP, 2019).

The following are some of the most common instructional methods:

- In traditional classroom education, the teacher instructs students using books and blackboards.

- Whiteboards, projectors, audio-visual display devices, and digital boards are all common features of modern classroom teaching.
- Information technology and communications are employed in online education, to aid in acquiring knowledge from various faraway locations.
- The learning environment is created using the internet, video, audio, and text communication tools.
- There are various kinds of online learning: knowledge-based, online help, asynchronous, synchronous, and hybrid training, to name a few.

Tiyar and Khoshsima (2015) indicate that the teaching–learning process is changing rapidly worldwide, from a typical classroom setting to a hybrid of traditional and online learning. Education is one of several social services that have benefited from using information technology as a facilitator. With the goal of improving access to education and learning quality, digital media and e-learning systems have played a vital role in learning content and learning platforms (Mesfin *et al.*, 2018).

## **1.2 SIGNIFICANCE OF STUDY**

The study was conducted to determine the importance of implementing an online administrative system for educators in public schools. According to Dong *et al.* (2020), online learning is synchronous and asynchronous learning that takes place on the internet. Pupils may share their thoughts and gain knowledge more autonomously through online learning because there is no time constraint and greater flexibility (Hwang *et al.*, 2021; Kkese, 2020; Lage-Cala *et al.*, 2020). Online learning necessitates skills in both learners and educators, as the ability to use technology aids considerably in creating a more conducive learning environment that fosters healthy social interaction (Andel *et al.*, 2020). Aside from aptitude, online learning programme developers must also consider the financial situation of learners, as well as the facilities and infrastructure that enable online learning (Rusli *et al.*, 2020).

Ventayen (2018) suggests that the department of education prioritise long-term implementation to meet the rising demand for distant learning and technological adaption. In addition, universities and colleges should assist departments of education and schools through extension projects to help schools promote learning. Ventayen

(2018) states that it is vital for public school educators to employ an online administrative system. According to, Msiza, *et al.*, (2020) successful implementation will depend on all learners having reliable internet access, and the Department of Education being able to provide funding to ensure stable internet connectivity to enable effective and successful e-learning implementation, it will make a positive contribution to the e-learning administrative system.

### **1.3 PROBLEM STATEMENT**

With the constant development of technology in the Fourth Industrial Revolution, public school educators have difficulty staying abreast of developments. Due to a large number of pupils in one class in public schools, it is difficult for educators to focus on children with special needs and daily class administration. Educators must prepare their syllabus and activities to present the following day in class, which preparations include making photocopies for students, which is costly. In addition, the time-consuming marking of assessments and tests causes a delay in preparing for class sessions and completing administrative duties.

The majority of public schools keep most of their paperwork, such as progress reports, application forms, and school tests and results, in archival files, making it difficult to provide immediate feedback on a former learner in the case of, for example, transfer from one school to another.

In South Africa, public schools have distinct obstacles due to their location. These difficulties may be traced back to a variety of factors. After 25 years of democracy, educational standards and student achievement in public schools have remained relatively unchanged (Du Plessis & Mestry, 2019).

Furthermore, given the implications for their daily life and future performance assessments, educators are frequently the most involved in educational activities. In addition, educators frequently lack the technical know-how to create and/or apply technology (Bailey & Michaels, 2019).

According to Du Plessis and Mestry (2019), educators must provide advanced education to rural learners to enable them to become knowledgeable members of their

communities and contribute to their growth. However, learner achievement has declined in public schools, and varies widely from school to school. Therefore, the government and other authorities must implement measures to improve teachers' working conditions and instruction in public schools.

## **1.4 RESEARCH AIMS AND OBJECTIVES**

### **1.4.1 Research aim**

This study's aim was to investigate the importance of implementing online administrative systems for educators in public schools.

### **1.4.2 Research objectives**

The following were the secondary objectives of the study:

- To examine how an online administrative system works;
- To assess the effects of an online administrative system on educators;
- and
- To recommend resources for implementing an online administration system.

## **1.5 RESEARCH QUESTIONS**

The research objectives were achieved by answering the following research questions:

- How does an online administrative system work?
- What effects does an online administrative system have on educators in public schools?
- How can the use of the technology enhance the administration of public schools?

## **1.6 DELIMITATIONS OF THE RESEARCH**

The current study focused on public schools in the Dr Kenneth Kaunda District of South Africa's North West province. The researcher requested permission to conduct a study with the educators in the schools and the director of the Dr Kenneth Kaunda District of the Department of Education.

The next section outlines the chapters contained in the dissertation.

## **1.7 OUTLINE OF THE DISSERTATION**

### **Chapter 1: Introduction and Background to the Study**

In this chapter, the researcher provided an introduction, the problem statement, and the context of the research. This was followed by the study's relevance, the main objectives, and the research questions.

### **Chapter 2: Literature Review**

This chapter reviews extant literature aligned to the research topic. The literature review provided the basis in formulating the study's objectives and research questions. The review discusses empirical knowledge in this domain, as well as gaps in the literature with regard to e-learning administrative systems for educators.

### **Chapter 3: Research Methodology**

The third chapter provides a detailed discussion of the methodology used in the study, including the population, sampling, and method of data analysis.

### **Chapter 4: Data analysis and presentation of findings**

The findings of the study are presented in this chapter, including a description of the demographic characteristics of the participants.

## **Chapter 5: Conclusions and Recommendations**

This chapter summarises the findings, followed by practical recommendations. The chapter concludes with the study's limitations and recommendations for further research.

### **1.8 CHAPTER SUMMARY**

Chapter 1 presented an introduction to the study, which focused on the transition from traditional education to an online learning environment, which may support teachers by enabling online education through the use of whiteboard projectors, audio-visual display devices, and digital boards, which are common features of modern classroom teaching. This chapter expanded on the significance of creating an online administrative system for educators in public schools, and listed the research aims, objectives, and the research questions. A review of extant literature in this domain is presented in Chapter 2.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 CHAPTER INTRODUCTION**

This chapter presents an extant literature review related to the research topic. Public school educators have trouble adjusting to ongoing technological advances. Teachers also find it challenging to concentrate on both students with special needs in their courses and everyday class management, because of the large number of students in one class. An electronic teaching and learning system, such as an online administrative system, could assist in addressing these issues. The next sections discuss the constructs of interest in the present study.

#### **2.2 E-Learning and Administrative System**

Electronic learning (e-learning) is the activity of teaching and learning using electronic equipment, such as computers to view interactive learning films, electronic whiteboards for teaching using pictures and video editing, and the use of sound during a presentation (Aziz *et al.*, 2021). Demir *et al.* (2020) define e-learning as the combined effect of an educational process with access to the internet. Fitria (2021) notes that e-learning is one of the effects of the advancement of ICT and includes the use of a website that is easily accessible. Elfaki *et al.* (2019) indicate that e-learning has become a crucial method that is extensively used by educational institutions worldwide, due to the expansion of internet technology.

In different situations, the term 'e-learning' has distinct connotations. It refers to the situation in higher education when learning is accomplished by supplying information, content, and programmes over the internet (Chang, 2016). According to Al-Fraihat *et al.* (2020), e-learning has evolved as a powerful learning medium due to the integration of technology and education, notably using internet technologies. The importance of e-learning in education has resulted in a significant increase in e-learning courses and systems providing various services.

Yawson and Yamoah (2020) state that, although e-learning plays a greater role in higher education, the satisfaction requirements for cohorts of multi-generational

students taking online courses are still poorly understood. However, Abuatiq *et al.* (2017) and McDonald *et al.* (2018) indicate that e-learning modules allow students to learn independently by allowing them to go over unclear passages more than once.

An administrative system is designed to support internal office administration, including management- and personnel information. The system brings together individuals, processes, and technologies devoted to the creation, collection, retention, dissemination, and disposal of documented information. Records management, report control, word processing, micrographics, optical character recognition, dictation, copying, printing, photocomposition, mail processing, and mail distribution are all components of administrative systems (Definition, n.d.).

Although there are many different definitions of administration systems, ranging from those based on system functionality to authors who consider such systems an all-encompassing approach to administration (Jones *et al.*, 2019). Systems and procedures for filing and record-keeping, office correspondence, managing visitors and phone calls, internal communication, financial management, and other administrative tasks are all examples of administrative systems. To ensure the efficient operation of a company, all staff members should be aware of and adhere to those systems (Wilde Ganzen Foundation, n.d.).

### **2.3 Teachers' classroom and administrative responsibilities**

It is the responsibility of a teacher to be an enthusiastic supporter of learners' knowledge production and a facilitator of a collaborator in their learning. Students should prepare the necessary and relevant content outside of the class by viewing video lectures, listening to podcasts, or reading e-books. Learners can also use the internet to connect with their peers and get assistance at any time from teachers. As a result, teachers may have more time to interact with the entire class and devote more attention to individuals according to their individual needs, (Xu & Shi, 2018). Developing order and classroom management skills are critical for creating a healthy learning environment and is the responsibility of teacher's environment. For this to happen, educators must have a management plan that allows them to take responsibility (Tahir & Bukhari, 2018).

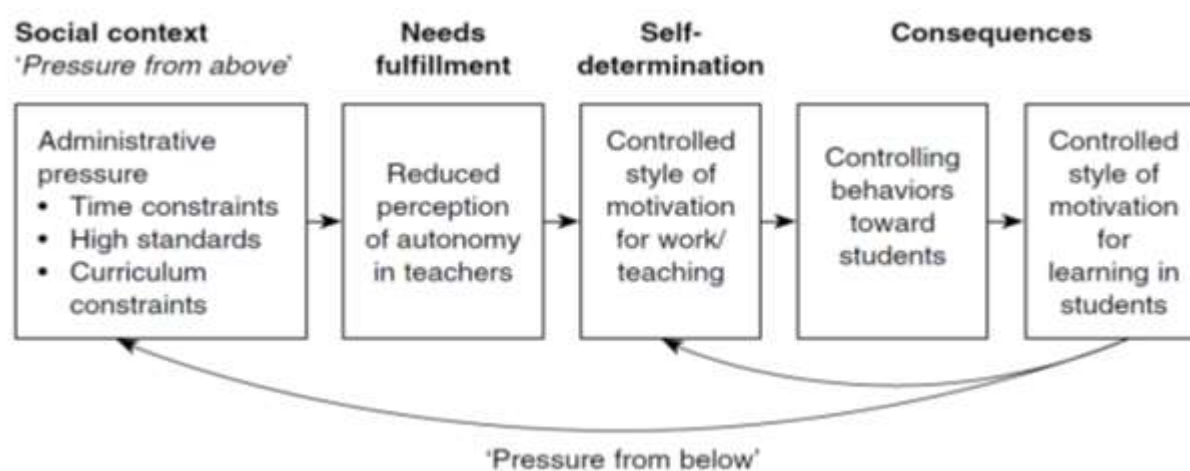
According to Saleem *et al.* (2020), most teachers deal with overcrowded classrooms and heavy workloads when they start their teaching careers. Manual administration aids most teachers but does not assist new teachers in overcoming many of the issues they face in their first years of teaching. The study by Saleem *et al.* (2020) further found that junior teachers in public schools' experience classroom management issues in their elementary courses, with some of these issues related to many administrative responsibilities.

According to Wardani *et al.* (2020), collecting, recording, processing, transmitting, and storing are components of classroom management operations. The educator's classroom administration duties and functions are meant to assist in implementing operational activities to meet the goals of a class organisation, such as homework assignments. *Classroom management* refers to various tasks that educators purposefully carry out to create ideal classroom teaching and learning conditions. Class management is strongly tied to attempts to develop and maintain ideal learning settings. It includes preventing students distracting other students' attention from the lesson, completing school homework on time, and building productive group norms, which involves the organisation of people (students) and educators (Wardani *et al.*, 2020).

Educators spend a substantial amount of time on administrative planning during the allocating of learners to educators. These allocations must adhere to parents' and principals' preferences, while promoting classroom parity (Bailey & Michaels, 2019).

Figure 1 demonstrates how the manual educational administration, which is a component of the social context of teachers, obstructs teachers' autonomy in their motivation for teaching, which has a negative impact on their behaviour (Pelletier & Sharp, 2009)

FIGURE 1: A MODEL OF THE EFFECTS OF EDUCATIONAL STRESSES ON TEACHERS' INTERPERSONAL BEHAVIOURS AND STUDENTS' MOTIVATION



**Source:** Pelletier & Sharp (2009)

Teachers and students are both a part of each other's social contexts, which introduces the idea of reciprocity. Therefore, just as controlling teachers have a negative impact on students' motivation, the motivation and behaviour of the students have an impact on the teachers (Pelletier & Sharp, 2009).

The findings of a study by Narathakoon *et al.* (2020) indicate educators' attitudes about classroom evaluation and assessment methods. The online tutoring policy shifted educators' assessment techniques from employing various assessment methods to using only a few in primary schools. Contextual variables such as educational policy, time limits, excessive workload, and the teacher's lack of assessment expertise all cause inconsistency between educators' views and behaviours.

## 2.4 The importance of an online administrative system

Tsai *et al.* (2017) conducted a study of an online administrative system that was employed as a support tool for students to check homework responses and post assignments. Following a mid-term review, an assignment was distributed to allow undergraduates to practise using online learning tools outside the classroom. The study found that the online training portal could be a welcome tool, as it assists users in achieving their knowledge- and study aspirations.

Because the system can retain data and information for a long time and improve the educational process, information technology is now recognised as a significant aspect of any project (Almaiah & Almulhem, 2018). Re-adjustment of time and the classroom — moving the decision of learning from the educator to the student — is referred to as the ‘flipped’ or ‘inverted’ classroom teaching method. Students can focus more on project-based learning and obtain better knowledge when this teaching style is employed. Teachers no longer use class time to impart knowledge and coach pupils (Xu & Shi, 2018).

Tsekea and Chigwada (2020) state that academic libraries play an essential role in promoting e-learning in higher education institutions by offering electronic information resources that are essential for studying, teaching, and conducting research. Digital libraries provide a ‘one-stop shop’ of electronic resources. It is further stated by Tsekea and Chigwada (2020) that digital services’ importance in e-learning environments was demonstrated in their study, particularly in developing countries, and highlighted how Zimbabwean university librarians devise practical solutions to support e-learning. In addition, higher education institutions and governments can use research to create academic libraries through e-learning portals.

An essential factor is the quality of the e-learning system, followed by the quality of the teacher and course materials, and the quality of the online administrative system and support services. While Vietnam is a developing country with limited online technology infrastructure, the quality of e-learning systems was nevertheless found to contribute to learning (Pham *et al.*, 2019). The essential elements were curriculum development for improved learning performance through the use of technology, (Almaiah & Almulhem, 2018).

## **2.5 The benefits of an online administrative system**

Bailey and Lee (2020) note a few benefits of online education over conventional ways of class administration, namely that it suits everyone’s requirements, learners may attend lectures at any time, low costs, and access to updated information. According to a report by Mesfin *et al.* (2018), both teachers and students have a fair amount of digital technology knowledge. Access to multimedia-rich e-learning materials, on the other hand, is limited, and it is premature to include these in teaching and learning.

Mesfin *et al.* (2018) further state that transferring from manual administration data to e-learning adoption models represents the first step of adopting of an online administrative system. Therefore, Raza *et al.*, (2021) states that the benefits of using Learning Management Systems (LMS) in education demonstrate that a variety of educational tasks can be finished through an online platform. It is therefore encouraged to spread the roots of the online environment and start taking part in other activities as well. Since artificial intelligence is quickly advancing, it is essential that the internet environment be taught in our educational system.

Raspopovic *et al.* (2017) state that the use of e-learning in education has proven beneficial in various situations, including higher education. E-learning is said to enable a focus on the needs of individual students according to educational institutions' demands or educators' undefined needs. Concentrating on the needs of individual learners enables efficient imparting of information (Huang & Chiu, 2015).

## **2.6 Challenges and Opportunities of an online administrative system**

By implementing a series of policies, China made significant achievements in the e-learning arena with regard to infrastructure, resources, academic education, non-academic training, and education for disadvantaged groups. However, due to the constraints of China's traditional e-learning culture and educational mechanisms, such as interactivity in teaching practices and learning activities, challenges emerged in implementing e-learning. Nevertheless, e-learning in China continues to expand, and research areas such as students' and teachers' perspectives on developments in e-learning will likely be topics of continuing research interest (Wang & Zhang, 2018).

Potential e-learners need to grasp the differences between an e-learning class environment and a traditional classroom setting, which poses challenges and opportunities that might affect students' overall performance (Al Rawashdeh *et al.*, 2021). Arkorful and Abaidoo (2015) state that e-learning administration occurring remotely may result in a lack of student involvement and compared to traditional modes of education, e-learning may be less effective, due to the lack of face-to-face interactions with educators.

Al Rawashdeh *et al.* (2021) indicate that the opportunities of an online administrative system make studying and communicating with educators more pleasant while developing the abilities and knowledge of individuals. The online administrative system also helps to improve learners' educational capabilities. Learners also have an opportunity to develop through online courses on the internet. Educators' online administrative systems help learners to engage with teachers through dialogue sessions and participation in debates.

Online administrative systems' challenges are based on the educators' ability to impart knowledge, interact with students, and enforce respect. It may also lessen educators' passion for the subject if an educator does not know how to use the online administrative system. Upgrades to the devices used in e-learning are possible, but they might cause delays in class presentations. Similarly, reading from a PowerPoint presentation may become a tedious routine; however, education covers a variety of topics and debates, in contrast to explanations without the use of technology (Al Rawashdeh *et al.*, 2021).

Online teaching is becoming compulsory in universities, with technology allowing lecturers to vary their presentations, offer more information, and improve student understanding. Furthermore, using various technologies in the classroom can assist educators in saving time and allowing more attention to be directed to the course content.

Using technology and learning resources in the university classroom has a variety of benefits (Arkorful & Abaidoo, 2015):

- More hands-on learning;
- Diverse teaching approaches;
- Improved student awareness and attentiveness;
- Stimulation of the eyes

However, there are three weaknesses in employing technology to teach courses

- Equipment failure;
- The necessity for contingency plans and guidelines;

- Educators and lecturers' anxiety;

Despite these weaknesses and disadvantages, many of the issues associated with using technology and learning materials may be avoided by thoroughly evaluating equipment and knowing how to utilise it appropriately.

The main benefits of e-learning are the capacity to transmit different types of information and the participation for students with disabilities. It can therefore be concluded that e-learning enables inclusive education, and it can be effective when combined with traditional learning methods. (Meskhi *et al.*, 2019).

## **2.7 Implementation of an e-learning administrative system**

Technology is not a new thing in human life. Most people now, even children, can use and operate technology. Children today are called 'digital natives', and they master the technology better than adults. E-learning technology is rapidly evolving, and it is critical to implement and expand this concept on a large scale and rapidly.

The essence of online education is collaboration (Rabiman *et al.*, 2020). Although many industrialised countries have advanced in implementing e-learning projects, many developing countries, particularly in the Middle East, are still in the early phases. A few state colleges in Iraq have recently begun experimenting the use of e-learning in addition to regular classes (Al-Azawei *et al.*, 2016).

When implementing of an administrative system, its design, development, and implementation stages is required to determine, the availability of the important portals to use such as noticeboards and guidelines of administration, and their adaptation to the peculiarities of vocational education are the first steps in development (Rabiman *et al.*, 2020). E-learning must be implemented in collaboration with educators and students, and teachers must be able to use ICT (Harianto *et al.*, 2016). Students must be capable of learning, adopting, and exploiting technology and information media to learn and thrive (Haryono, 2017). Communication, teamwork, critical thinking, problem-solving, creativity, and invention are the skills that students should develop (Wijaya *et al.*, 2016). Information and Communication Technology (ICT) in learning planning is inextricably linked to the learning model used in the learning plan, (Zubaidah, 2016).

E-learning has some limitations, for example, the unavailability of an internet connection, and having knowledge on how to access learning tools and the use of it, (Agung & Surtikanti, 2020). One of the most significant problems in implementing e-learning is the lack of internet access in rural areas. Furthermore, research by Bali and Liu (2018), Adnan and Anwar (2020), and Setyaningsih (2020) found that online learning does not generate the intended results; face-to-face engagement in the classroom is more effective.

E-learning has become a new regulation in Indonesia to overcome the lack of classroom lessons. By implementing e-learning, technology becomes an immediate need. (Oktaviani & Desiarti, 2017).

Budgets for establishing an integrated ICT infrastructure, e-learning, and other requirements should be prioritised (Al-Azawei *et al.*, 2016). In implementation, the first step is familiarising users with e-learning capabilities, allowing them to gain confidence in using technology. Second, prompt support should be provided if students or teachers have a problem (Al-Azawei *et al.*, 2016). Pedagogy should be used in e-learning (Amir *et al.*, 2020). Despite the limitations of e-learning, Bagata (2020) discovered that students have favourable attitudes and are more motivated to participate in online learning.

Most foreign language students nowadays learn the target language mainly through online or blended learning (Sari & Wahyudin, 2019). Students' attitudes toward online learning have been studied in previous studies. While some studies indicate that e-learning has a favourable impact on pupils, others believe it has drawbacks (Pustika, 2020). Implementing an e-learning administrative system necessitates preparation by all parties, namely educational service providers, teachers and lecturers, and students. Online and remote learning necessitate expert technical assistance. Teachers will be challenged to be even more innovative in e-learning learning environments (Fitria, 2021).

Technology and the information and knowledge revolution significantly impact educational institutions. Due to the challenging general conditions brought on by conflict, higher education in other countries such as Iraq faced a crisis that delayed the process of creating and enhancing information systems and technologies at Iraqi

educational institutions. The use of ICT in education requires a systematic and organised approach to raising the calibre of education (Montazer & Al-Rikabi, 2021).

## **2.8. The government's position on e-learning and the use of online administration**

In South Africa, educational environments regarding learning technologies are typically underutilized. As national educational institutions work toward a common objective within the context of a global education transition, the requirement for and usage of these e-tools is of the utmost importance, (van de Heyde & Siebrits, 2019). The South African government advocates online education as a substitute, however many rural students are not able to participate in teaching and learning because they lack the means to access the internet, a learning management system, and low-tech software, (Dube, 2020).

## **2.9. Adoption of technology theories**

Adoption is defined as the mental process that an individual goes through from first hearing about an innovation to final adoption, and adoption is defined as an individual's decision to become a regular user of the product or innovation (Kotler & Armstrong, 2004). Technology acceptance refers to how people accept and adopt new technology (Louho et al., 2006).

### *Diffusion of Innovation Theory (DOI)*

The spread or adoption of a technology within a social context is commonly referred to as the diffusion of innovation. This viewpoint divides technological and market aspects of innovation by relying on an underlying assumption of unidirectional innovation flow—that is, from the technological to the market side. (Vargo *et al.*, 2020). The systematic acceptance of new technology is described by the Diffusion of Innovation (DOI) theory. It is a hypothesis that aims to clarify the how, why, and rate of cultural technology diffusion, (Masimba, & Zuva, 2021).

### *The Theory of Reasonable Action (TRA)*

Fishbein and Ajzen developed the Theory of Reasoned Action (TRA) in 1975. The Theory of Reasoned Action (TRA) was the first theory to be widely accepted in the

field of technology acceptance research. The Theory of Reasoned Action is also one of the most influential and fundamental human behaviour theories, and it has been used to predict a wide range of behaviours (Olushola & Abiola, 2017). Based on Fishbein and Ajzen Theory of Reasonable Action (TRA) the TRA, individuals assess the effects of their activities or behaviours based on their beliefs that they should act in ways that produce desired results. People's attitudes toward the behaviour will be influenced by the outcomes of the consequences. To engage in a behaviour, a person must believe that the benefits of engaging in the behaviour will outweigh the drawbacks, (Khan, & Idris, 2019).

#### *The Technologies Acceptance Model (TAM),*

The Technologies Acceptance Model created by Davis in 1981, serves as a recognized scientific framework for examining consumers' acceptance and utilization of innovation (Wang *et al.*, 2018). The Technology Acceptance Model (TAM), which is based on the Theory of Reasoned Action (TRA), is a model for how customers accept data formats or technologies (Lai, 2017). Davis updated the TRA model by removing subjective standards and including two essential faith variables—perceived usefulness and perceived ease of use—to foresee a user's view of a system.

The adjustments resulted from his claim that humans only employ technologies based on two beliefs: the expectation that using the gadget will increase its efficacy (perceived utility) and the amount of work necessary to use it (Dugar, 2018). In order to advance cultural awareness and good study habits, the Ministry of Education (MOE) has declared that it wants to employ technology to increase contact across classrooms online. The Ministry of Education asserts that it is the responsibility of public schools to prepare individuals who will be successful in an information-based society by imparting to them a knowledge of technology (Wong *et al.*, 2013).

#### **2.10. The study's research gaps**

This study was done to identify the need of implementing an e-learning administrative system that will be user friendly to both educators and learners. The researcher only focussed on the view of the educators and how helpful it will be. The educators indicated that learners would struggle due to lack of skills and resources. The gap in this study is that no learner was interviewed to conclude if they really lack the

necessary skills as indicated by the educators throughout in chapter 4 of this study. The researcher did not include learners in this study because they are minors, and this would have implicated the ethical consideration of the study.

## **2.11. CHAPTER SUMMARY**

This chapter reviewed the literature on the definition of e-learning, the administrative duties of teachers in the classroom, the significance of an e-learning administrative system, together with its advantages, challenges, and opportunities, as well as the implementation of an e-learning administrative system. Chapter 3 discusses the present study's methodology.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1 CHAPTER INTRODUCTION**

This chapter provides a description and explanation of the research methodology, research tools, and the population of this study.

#### **3.2 RESEARCH PHILOSOPHY**

The theoretical or philosophical foundation for the research work is referred to as the research paradigm. It is considered a research philosophy, (Khatri, 2020). Research philosophy consists of a set of attitudes and philosophical assumptions that influence how research topics are interpreted and research procedures are selected. The present researcher adhered to the interpretivist paradigm. According to, Alharahsheh & Pius, (2020), the interpretivist paradigm and qualitative methods allow researchers to go deeper by seeking experiences and perceptions of a specific social context. The research paradigm is critical because it shapes the researcher's methodological approach to investigating the research question, (Ragab & Arisha, 2018).

The section that follows focus on the research approach of the study, that is discussed by the researcher by making use of previous studies done.

##### **3.2.1 Research Approach**

This study followed a qualitative research approach. According to Bearman (2019), qualitative research is "the systematic study of social phenomena articulated in methods that qualify to characterise, enlighten, explain, and investigate the topic of inquiry". In qualitative studies, researchers seek to understand the human experience and social phenomena through words rather than numeric analyses. This approach and is often used in research on health professions and education (Bearman, 2019).

In contrast to quantitative studies, qualitative research entails the rigorous, in-depth study of a small group of individuals who share features. As a result, qualitative

findings are frequently oriented toward the contextual distinctiveness and significance of the social phenomenon under investigation (Bryman *et al.*, 2014:45). The aim of qualitative research is to discover how people interpret and make sense of their experiences, in order to comprehend individuals' social realities. In qualitative studies, researchers can gather qualitative data through interviews, diaries, journals, classroom observations, immersions, and visual and textual materials, and oral history (Zohrabi, 2013). The present researcher employed interviews based on trustworthiness, credibility, transferability, dependability and confirmability, that is discussed below from 3.2.1.1 up until 3.2.1.5.

### **3.2.1.1 Trustworthiness**

The trustworthiness of a study is based on four criteria, namely credibility, transferability, dependability, and confirmability Bryman *et al.* (2014:44). The findings of the study were based on the identified study population and their responses; there is no hidden meaning or personal influence of the researcher. The strategies employed in the present study to meet each of these criteria are discussed below.

### **3.2.1.2 Credibility**

Credibility is established through a detailed description of the data analysis and verification of the data gathered from the participants, as well as details on how conclusions were reached from the data. It also necessitates researchers to connect the data analysis unit to the central phenomenon under investigation (Daniel, 2018). According to Forero *et al.* (2018), credibility is gained through a long and varied interaction with the study context, (Daniel, 2019).

The data was analysed using the ATLAS ti software, which qualitative researchers use. This information is derived from the interview guides of participants who were interviewed in groups of two, three, or four. The responses were recorded on the interview guides and the results were presented in themes throughout the findings in the manner described in the participant quotes in chapter 4, which follows this chapter. The coding was transparent, allowing the researcher to assess the study's reliability.

The credibility and generalizability of the presented findings attract the interest of public-school teachers, future researchers, editors, and qualitative study readers.

### **3.2.1.3 Transferability**

Transferability is the qualitative equivalent of quantitative generalisation. While qualitative findings cannot be generalised, they may be applicable to another, similar context. This requires that the researcher provide sufficient information on the study setting and participant to enable the readers to determine whether the findings may be applicable to their circumstances, (Ospina *et al.*, 2018). Qualitative researchers thus have to provide detailed descriptions of the actual conditions and understandings of participants' worldviews to promote transferability and help close the gap between practitioners and researchers (Ospina *et al.*, 2018).

According to Forero *et al.* (2018), to enhance transferability, the researcher has to ensure that sample selection is based on participants' expert knowledge about the phenomenon under study. Another technique to ensure transferability is comparing the features of the participants or informants to the demographic data of the investigated group.

### **3.2.1.4 Dependability**

Dependability is the qualitative equivalent of consistency in quantitative research (Janis, 2022). Researchers establish dependability by describing the consistency of the research process. Inter-rater reliability, robust and logical mapping of the study design, and multiple checks of analyses between researchers are all examples of strategies to ensure dependability (Nguyen *et al.*, 2021). Nguyen *et al.* (2021) propose that documenting the methodological and interpretive processes helps strengthen the dependability of a qualitative study. The researcher conducted a telephone interview with the participants and requested that the answers be noted on the interview guides, following the exact questions stipulated in the interview guide in ANNAXURE B. The completed interview guides of the participants are kept safe by the researcher and will only be provided to the researcher's study supervisor and the Director of the Dr

Kenneth Kaunda District Department of Education in the North West Province as agreed on during the researcher's request for permission to conduct the study.

### **3.2.1.5 Confirmability**

While total objectivity is unattainable in social research, the researcher can demonstrate that personal views or theoretical inclinations have not influenced the research (Bryman *et al.*, 2014:45). In order to ensure that no results were repeated, the researcher double-checked the participants' completed interview guides both during and after the data collection process.

A common way of ensuring confirmability in qualitative research is to provide readers with an 'audit trail' of the actions and processes carried out in the research. When the audit trail is robust, other researchers can follow it, evaluate its logic, match it to the study objectives, and connect it to discoveries (Nguyen *et al.*, 2021).

## **3.3 RESEARCH DESIGN**

Saunders *et al.* (2016:16) state that the research design is the overall strategy or plan for how the researcher will answer the study's research questions, including the methods of sampling, data gathering, and analysis. The research design therefore is there a framework for conducting the study (Bryman *et al.*, 2014:99). Choosing an appropriate design is likely the most crucial decision a researcher takes after determining the research topic and drafting the research questions (Abutabenjeh & Jaradat, 2018).

An exploratory design was employed in the present study. According to Sreejesh *et al.*, (2014), exploratory research is carried out to prepare a problem for a more thorough investigation or to frame a working hypothesis from an operational standpoint; it also aids in understanding and assessing critical issues. It is not used when a specific outcome is desired. The results of exploratory research are also used in subsequent research to achieve conclusive results for a solution to a specific problem. Exploratory studies are carried out for three primary reasons: to analyse a problem situation, assess alternative solutions, and discover new idea. This allows researchers to contextualise how participants evaluated their activities and

environment, as well as their involvement in the study setting, and it offers a view of what will happen in future (Isaacs *et al.*, 2013). Based on the study's collected data, findings, and previous studies on the topic, it already has existing topics explored, primarily to generate new ideas and hypotheses without being able to properly verify some. The researchers' study is new and has never been used before, making it exploratory and capable of being expanded in future research. The next section describes the current study's population, sampling techniques, method of data gathering and analysis.

### **3.4 POPULATION AND SAMPLING**

This section defines the population, sampling, techniques, and probability sampling done by previous researchers.

#### **3.4.1 Population**

According to Saunders *et al.* (2016), a study population is the entire group of people who are the focus of the research inquiry from whom a sample is selected. A population can comprises various units, such as individuals, communities, countries, cities, regions, businesses, to name a few (Bryman *et al.*, 2014:170).

The present study's population comprised educators in public schools in the Dr. Kenneth Kaunda District in the North West province. The section that follows focus on the sampling of the study.

#### **3.4.2 Sampling**

A sample is a subset of the population that being examined in order to draw conclusions regarding the population (Banning, 2021). Sampling methods or techniques are the approaches used in selecting units of analysis that are representative of the targeted population (Berndt, 2020). There are two types of sampling techniques or methods: probability sampling and non-probability sampling (Etikan, 2017). In probability sampling, every person has an equal chance of being selected for participation in a study, while the opposite is true in non-probability sampling.

In the present study, non-probability, purposive sampling in the form of judgement sampling and convenience sampling was used to select participants, i.e., knowledgeable participants who were conveniently accessible to the researcher (Lamm & Lamm, 2019).

The researcher met with the educators of the identified schools and provided background and details of the study and what the researcher wished to accomplish. A permission letter to conduct the study from Department of Education, was also shown to the educators who agreed to take part in the research. The next section focus on the size of the study sample.

### **3.4.3 Sample Size**

There is no pre-determined sample size in qualitative research, and researchers often rely on data saturation as an indication of a sufficient sample. Data saturation is the point where no additional information emerges from further interviews. It is advised that researchers confirm data saturation by conducting a few additional interviews.

The study reached data saturation after ten educators had been interviewed. The researcher conducted two more interviews, which brought it to 12, discovered nothing different from what the 10 participants mentioned, and stopped when data saturation was reached. Data saturation, also known as "thematic exhaustion," is the state in which no new themes are determined from the dataset and is defined as "the point in data collection and analysis when new information produces little or no change to the given dataset" (Guest et al., 2006). The data collection is discussed in the section that follows.

## **3.5 DATA COLLECTION**

The present study examined participants' perspectives and experiences of an e-learning administrative system. The researcher collected the data through semi-structured interviews, guided by an interview guide containing open-ended questions in Annexure B.

Interviews generate detailed, thick descriptions of the phenomenon under study. The interview technique also allows the research to ask additional and probing questions to gather additional insights, clarity, and nuanced ideas and descriptions with regard to the phenomenon of interest (Bryman *et al.*, 2014:224). Bearman (2019) notes that participants respond best when they are having fun, are not afraid or defensive, and understand what the aim of the study.

In the present study, the interviews were conducted telephonically, after work hours, as this suited the participants and comply with the stipulation of the Director of the Dr Kenneth Kaunda District Department of Education that no classes be interrupted to conduct interviews. Most of the participants did not have access to laptops and did not have internet connectivity, which is why the interviews were conducted telephonically.

The interview guide consisted of Sections A to D. Section A was aimed at gathering demographic information, such as years of experience in teaching, highest qualifications, and details of participants' administrative duties. Section B contained questions focusing on the e-learning administrative system. Section C was focused on the challenges and opportunities of an e-learning administrative system, and Section D focused on implementation of an e-learning administrative system.

Participants had to sign a consent form prior to commencement of the interviews. The researcher provided each educator with information on the aim of the study and a copy of the interview guide. The interviews were scheduled based on the availability of the educators. The interviews were conducted in groups of two, three, or four participants, and lasted between 40 and 50 minutes. During the interview, each participant answered the interview questions by completing the interview guide questions as stipulated in Annexure B, and the interview guides were then return to the researcher. Per the participants' request, the interviews were not recorded. The data coding and analysis section follows after this section.

### **3.5.2.3 Data Coding and Analysis**

The present researcher analysed the data through thematic analysis, performed using the Atlas.ti software program. Thematic analysis entails discovering, analysing, and access to better information in a describe data, (Scharp, & Sanders, 2019). According

to Braun and Clarke (2006), when conducting a thematic analysis, researchers must ask themselves several questions, usually centred on "What is a theme?" They contend that, regardless of whether it represents the experience of the majority, a theme captures a salient aspect of the data in a patterned way. To determine whether a set of data meaningfully responds to the research question, researchers used thematic analysis rather than asking questions about quantity.

According to Rozani *et al.* (2020), Atlas.ti provides helpful analytical tools for conducting analyses in qualitative research, notably in social sciences.

Atlas.ti features include a software application with a "point and click" graphical user interface and comparable methodological skills, incorporating the analysis of all loaded textual material such as interview transcripts, news articles, and corporate prospectuses as a single entity or "one hermeneutic unit". It can capture, store, index, sort, and retrieve enormous data sets, and creates audit trails so that other researchers are able to see how the data was analysed (Rozani *et al.*, 2020).

Qualitative research methodologies have long been criticised for their lack of rigour and for yielding skewed and biased conclusions. As qualitative approaches have become more widely employed in social work research, efforts to address these objections have expanded. Thematic analysis gives structure and incorporates reflection in a qualitative study employing textual material (Mackieson *et al.*, 2019), and is a flexible tool for analysing qualitative data. Table 3.1 below presents the framework of rigour in qualitative research. It indicates the criteria, research strategy and the techniques to insure rigour in qualitative research.

TABLE 2 .1: FRAMEWORK OF RIGOUR IN QUALITATIVE RESEARCH

<i>Rigour critical</i>	<i>Criteria for rigour</i>	<i>Research strategy</i>	<i>Techniques to insure rigour</i>
Credibility	Truth value	Field notes/memo Tape recorder Thematic log Auditing transcript	Purposeful/theoretical Negative/deviant case Constant comparison Member checking Triangulation Audit trial
Transferability	Applicability	Data display Simultaneous Field notes/memo Tape recorder	Purposeful/theoretical Thick description Negative/deviant case
Dependability	Consistency	Thematic log Auditing transcript Researcher's story Reflexivity	Member checking Triangulation Audit trial
Confirmability	Neutrality	Filed notes/memo	Audit trial

**Source:** Liamputtong, & Ezzy, (2005)

### 3.6 ETHICAL CONSIDERATIONS

Permission to conduct the study was obtained from the Economic and Management Sciences Research Ethics Committee of North-West University (Ethics Clearance number; NWU-00666-22-A4) ANNEXURE E and the Director of the Department of Education of the Dr Kenneth Kaunda district, ANNEXURE A. Participants were assured of anonymity, and no personal identifiers were used in writing up the findings. The study was considered low in risk with regard to harming participants, as the topic was not sensitive. The researcher had no relationship with the participants, and there was no conflict of interests. Participants were informed of the aim of the research and had to provide informed consent to participate prior to commencement of the interviews. They were also informed that they could withdraw from the study at any point, without negative consequences. All government regulations and safety procedures related to COVID-19 were observed. The Protection of Personal Information Act 4 of 2013 (POPI Act) (South African Government Gazette, 2013) was adhered to throughout the study. The research report will be made available to the Department of Education, as agreed. The data is stored securely, protected through a password, and will be destroyed in five years after completion of the study.

### **3.8 CHAPTER SUMMARY**

This chapter discussed the methodology followed in conducting the study, including the research philosophy, approach, design, population and sampling, and data collection and analysis. The population of the study was briefly described as the research population for the study. The next chapter reports the findings of the study.

## **CHAPTER 4**

### **DATA ANALYSIS AND PRESENTATION OF FINDINGS**

#### **4.1 CHAPTER INTRODUCTION**

This chapter presents the data analysis and findings. The data were collected from 12 educators in public schools. This was a qualitative study, and the sample size was not determined beforehand, but depended on data saturation. Data saturation was reached after 12 participants, when the researcher discovered enough information to replicate the study and further coding was no longer feasible. The researcher discovered saturation after 10 interviews and decided to conduct 2 more but noticed that the same themes came out repeatedly.

#### **4.2 PRESENTATION OF FINDINGS**

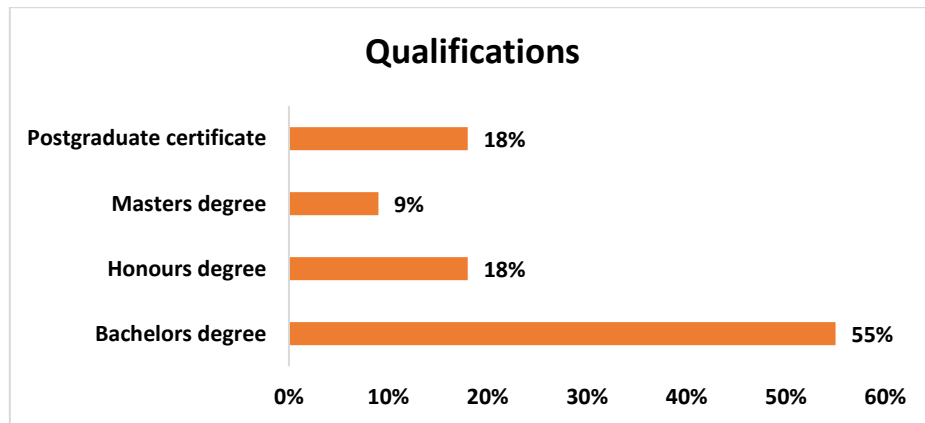
This section presents the findings of the study, starting with a participant profile. To maintain anonymity, participants were given pseudonyms.

##### **4.2.1 Description of Participants' Demographics**

The demographic information of the participants, such as years of experience and highest educational qualification, is presented in this section.

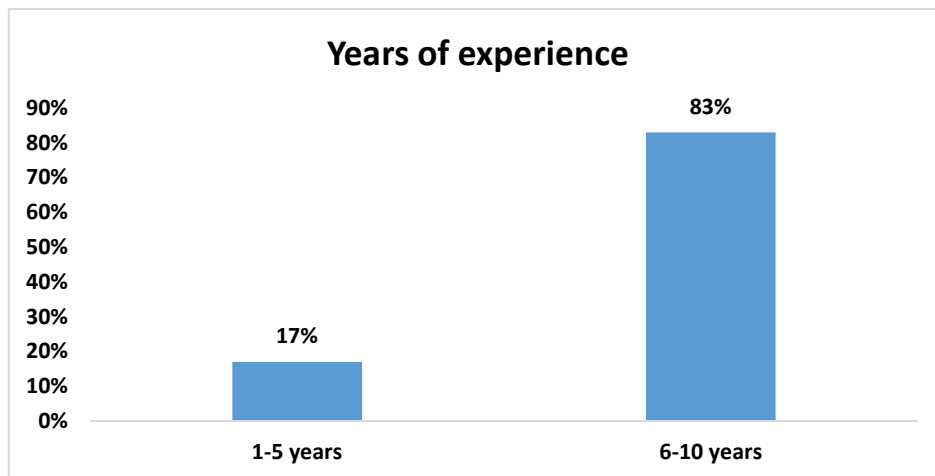
Figure 2 illustrates participants' level of education. The majority (4 = 55%) of the study participants held a bachelor's degree, while 18% had an honour's degree, 18% held a national diploma, and 9% had a master's degree.

FIGURE 2: QUALIFICATIONS OF PARTICIPANTS



Source: Author's own

FIGURE 3: PARTICIPANTS' YEARS OF EXPERIENCE



Source: Author's own

Figure 3 above presents the results of the years of experience of the educators who participated in this study. Most of the participants had between six- and ten-years' experience, while 17% had between one- and five-years' work experience.

### 4.3 THEMATIC ANALYSIS

The qualitative data was explored to address the questions of the study. The research objectives were achieved by answering the following research questions:

- Will the implementation of the online administrative system improve the quality of education in public schools?
- What effects does an online administrative system have on educators in public schools?
- What effects does an online administrative system have on learners in public schools?

Table 4.1 lists the themes that emerged from the data, categorised according to the research questions.

TABLE 3.1: IDENTIFIED THEMES AND SUB-THEMES

Theme	Sub-theme
Administrative systems in public schools	1. Manual administrative system <b>Online administration system</b> 2. Benefits of an online administrative system 3. Challenges of an online administrative system
Effect of online administrative system in public schools.	<b>Positive effects</b> 1. Educator productivity 2. Improved teaching and learning 3. Improved support to learners <b>Negative effects</b> 4. Lack of resources 5. Lack of educator skills 6. Lack of learner skills
Proposed improvement of educator administration in public schools	1. Implementation of the online administrative system or teaching and learning in public schools

**Source:** Author's own

Themes and sub-themes are indicated and described below, with supporting quotes from participants.

#### **4.3.1 Administrative systems in public schools**

The *Monitoring and control process* theme has two sub-themes, namely *Manual administration systems* and *Online administration systems* (benefits and challenges). This theme was aimed at addressing Research Objective 1, which sought to examine how an online administrative system works. This theme has two (2) sub-themes: one, manual administration systems; two, online administration systems (benefits and challenges). All these sub-themes were aimed at addressing objective one (1), and the results thereof are detailed below.

##### **4.3.1.1 Manual administration system**

This sub-theme had twelve supporting quotes, from which some is coded in Figure 4 below, and the twelve is illustrated in Figure 5, which indicates the negative impact of the manual administrative system in public schools. The participants coded that manual administration in public schools, due to its nature, takes time that could be dedicated to teaching and learning. This study found that the manual administrative system also results in a heavy workload for the educators, as there are too many homework papers of learners to administer in too little time. This also results in learners having too much manually copy notes, that educators provide in class, which takes more time and affects the educators' supporting learners during teaching and learning. A manual administrative system was found to also result in many important documents going missing due to a lack of filing resources in public schools.

FIGURE 4: PARTICIPANTS' QUOTES ON THE MANUAL ADMINISTRATION SYSTEM

Work overload duties.  
Lack of technological equipments.  
No internet connection/availability  
amongst learners.

Also the work load becomes too much  
then I don't attend to my other  
duties.

Yes, it will reduce the number of  
paper trail in the classroom. And  
also, a proper administrative system  
would also improve the storage of  
important documents.

It would mean a paperless class  
room, less time spent on ~~general~~ manual  
administration work, and more time  
spent on ~~the~~ conducive teaching and  
learning.

I think a month's worth of work can be ~~covered~~<sup>covered</sup> in a day or two. So most of the quarterly administration can be done quickly and it will definitely save more time.

Too many paper work To Be Completed at a short time.

No support or System in place hat make the work go faster.

- work overload
- Lack of technological equipments or resources
- ~~lots~~ Lots of paper work duties.

The lot of paperwork that comes with it

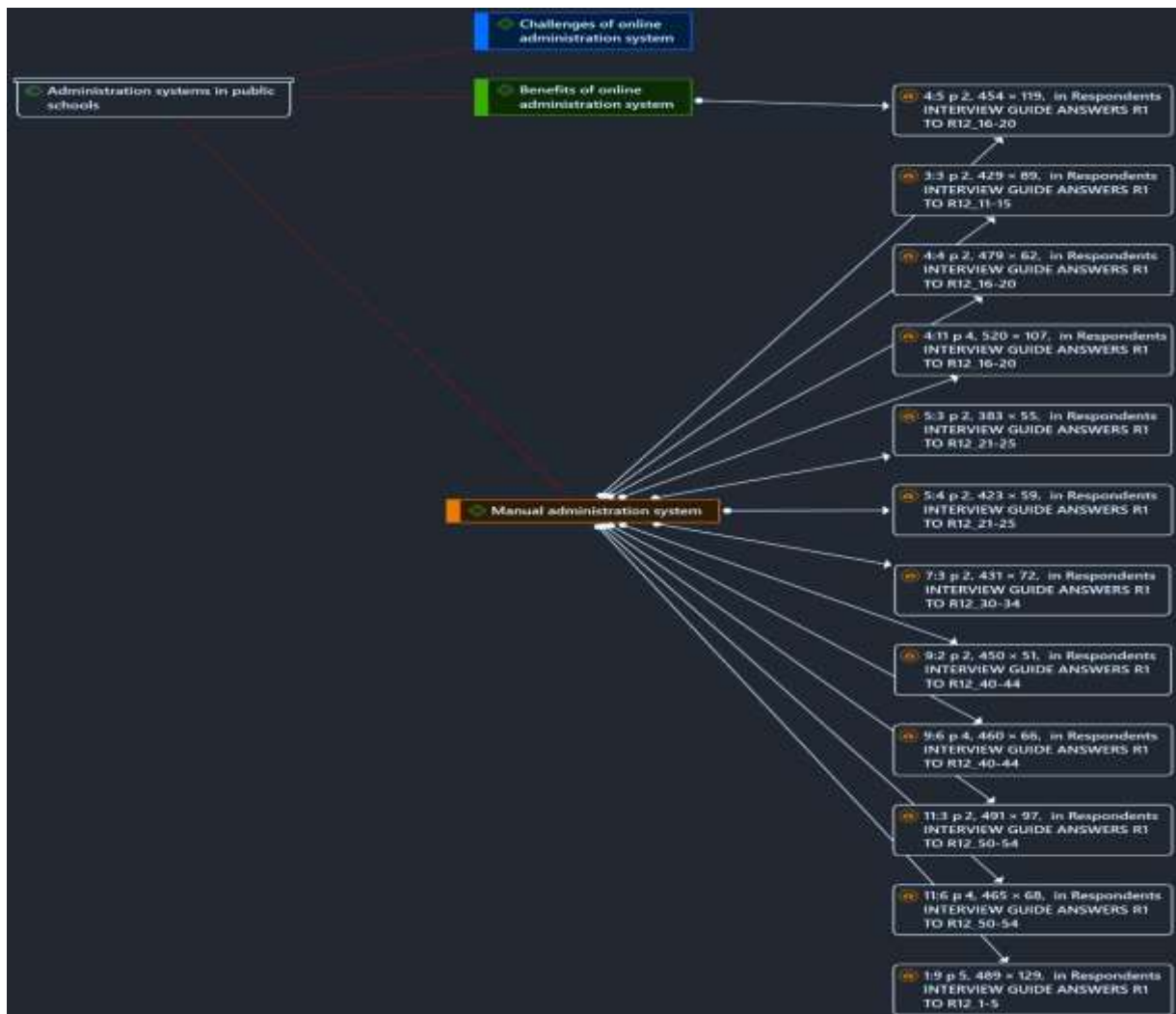
Yes cause people who work with admin duties tend to struggle and loose documents

Yes it will because there will be decreased chances of any work being lost. The work will also be completed more efficiently.

Definitely, administration takes up a lot of time, consuming most of teaching and learning time.

Source: Author's own

FIGURE 5: NETWORK QUOTES OF MANUAL ADMINISTRATION SYSTEM



Source: Author's own

#### 4.3.1.2 Online administrative system

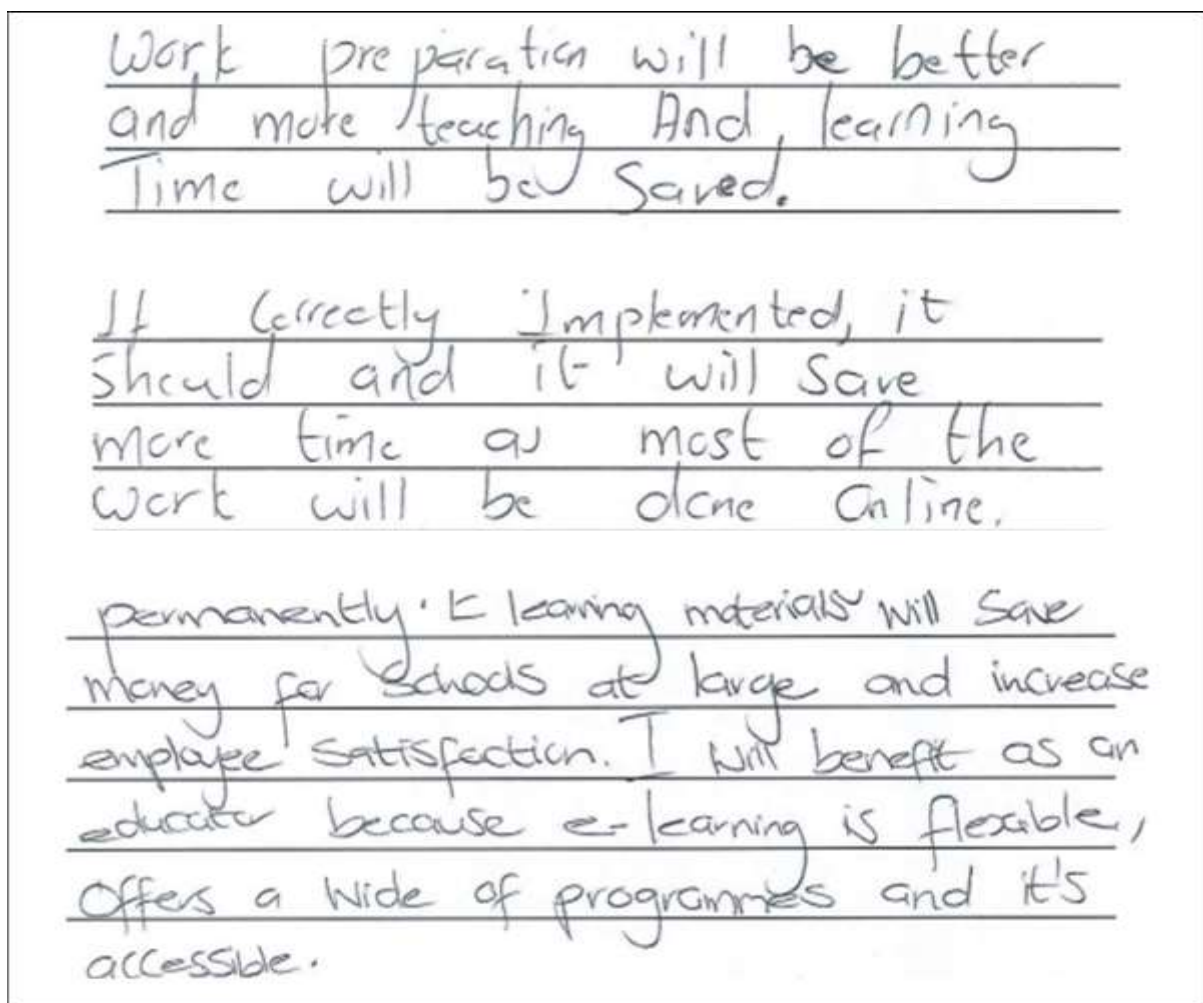
This section discusses an online administrative system, its benefits and the challenges of an online administrative system in public schools.

##### 4.3.1.2.1 Benefits of online administrative system

This sub-theme consists of twenty-one supporting quotes, from which some of the quotes is coded in Figure 6 below, and the twenty-one is illustrated in Figure 7,

indicating the benefits an online administrative system, where the participants noted that implementing an online administrative system in public schools will save time and costs associated with manual administration. This study further found that the benefits of implementing an online administrative system include minimising errors and improving efficiency in teaching and learning. One of the common benefits of implementing an online administrative system that the participants noted was that educators will then have enough time to focus on teaching and learning. Another benefit is that an online system would enable the easy sharing of educational information between learner and educator. Moreover, an online system would contribute to the safeguarding and preservation of information. The sub-theme on challenges of online administrative system in public school's follows, which indicates, the lack of skills will have on implementing the system.

FIGURE 6: PARTICIPANTS' QUOTES ON THE BENEFITS OF AN ONLINE ADMINISTRATIVE SYSTEM



Yes it will, more accuracy and less errors and faults.

I CAN UPLOAD TEACHING SLIDES/NOTES THAT LEARNERS CAN REFER TO WHEN PREPARING A TASK OR FOR AN EXAM. LEARNERS MARKS CAN BE UPLOADED THERE AS WELL WHICH WILL SAVE TIME. TEACHING VIDEOS CAN BE UPLOADED AS WELL/ONLINE TEACHING VIDEOS THAT LEARNERS CAN HAVE ACCESS TO.

Yes it will be very beneficial, with the large number of overcrowded classes an e-learning administrative system will make the life of a teacher in a public school more bearable allowing a teacher to spend more time on teaching.

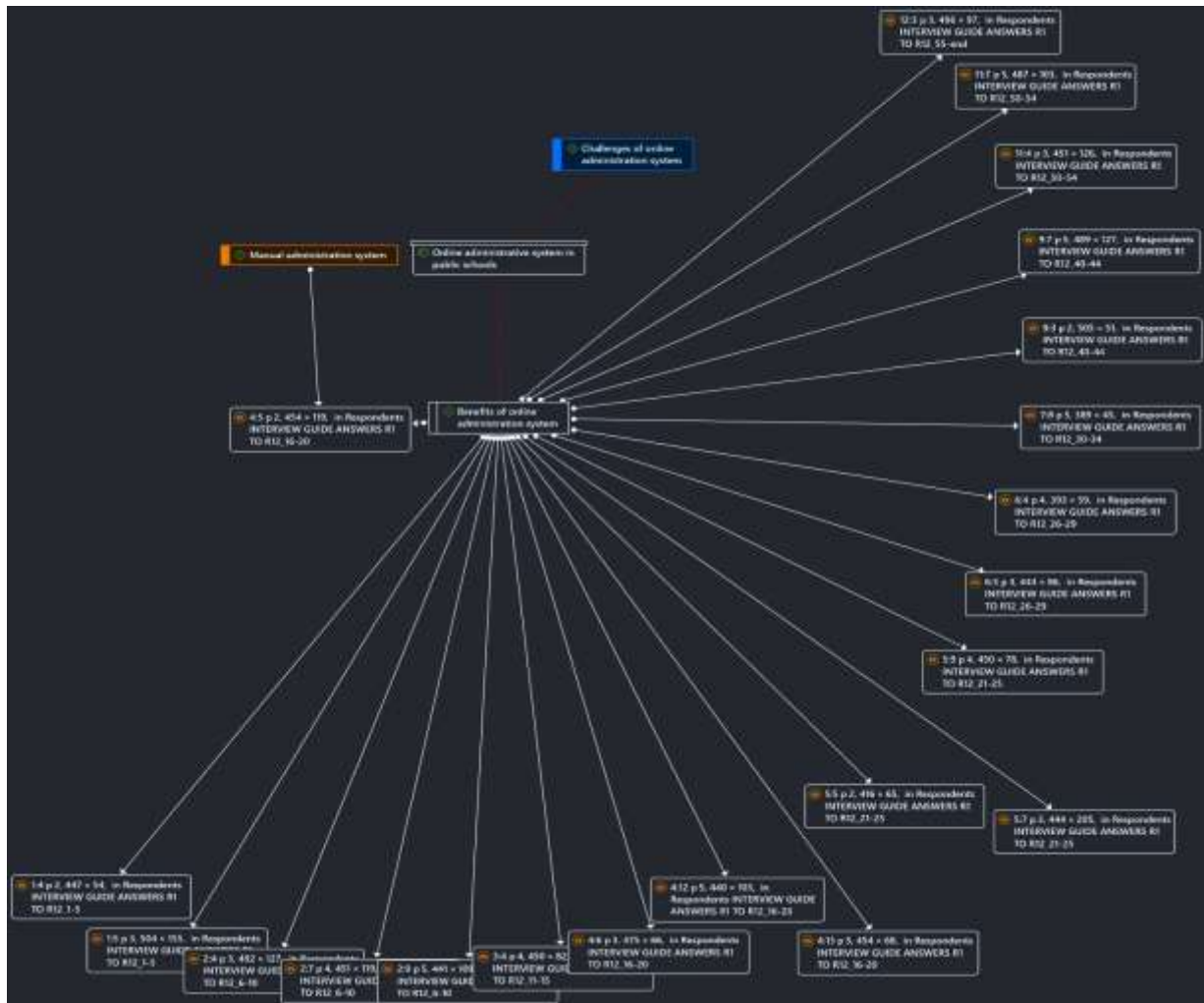
DEFINITELY: NOT ONLY WILL IT SAVE TIME BUT WILL SAVE COSTS AS WELL. I, AS THE TEACHER WILL NOT HAVE TO WAIT FOR MY PERIOD DURING SCHOOL HOURS TO GET THE WORK DONE, BUT I CAN DO IT AT ALL TIMES.

Yes, if used to its most effectiveness, all required work will be achieved on time.

YES. CURRICULUM COVERAGE OR ANNUAL TEACHING PLAN WOULD BE COVERED 100% AT ALL TIME HENCE BETTER MARKS WILL BE OBTAINED.

Source: Author's own

FIGURE 7: NETWORK QUOTES REGARDING THE BENEFITS OF IMPLEMENTING AN ONLINE ADMINISTRATIVE SYSTEM IN PUBLIC SCHOOLS



Source: Author's own

#### 4.3.1.2.2 Challenges of online administrative system in public schools

This sub-theme had eight supporting quotes, from which some is coded in Figure 8 below, and the eight is illustrated in Figure 9, indicating what the challenges of online administrative system in public schools is. The findings show that the implementation of an online administrative system in public schools is associated with a number of challenges. The challenges are a lack of resources, a lack of skills, that might make the system vulnerable to cybercrime.

FIGURE 8: PARTICIPANTS' QUOTES ON CHALLENGES OF AN ONLINE ADMINISTRATIVE SYSTEM IN PUBLIC SCHOOLS

The availability of resources is usually a challenge in public schools and therefore that is the one of the challenges I foresee. If I have to make use of an e-learning system.

\*NO COMPUTERS / LAPTOPS.

\*LACK OF INTERNET CONNECTIVITY AVAILABLE.

\*LACK OF BASIC COMPUTER SKILLS AMONGST LEARNERS PARTICULARLY THOSE IN PRIMARY SCHOOLS.

If everyone can have access to any e-learning administrative system then it's going to be a challenge as they can re-arrange it.

Basic Computer skills from learners and not interest or desire to learn new things.

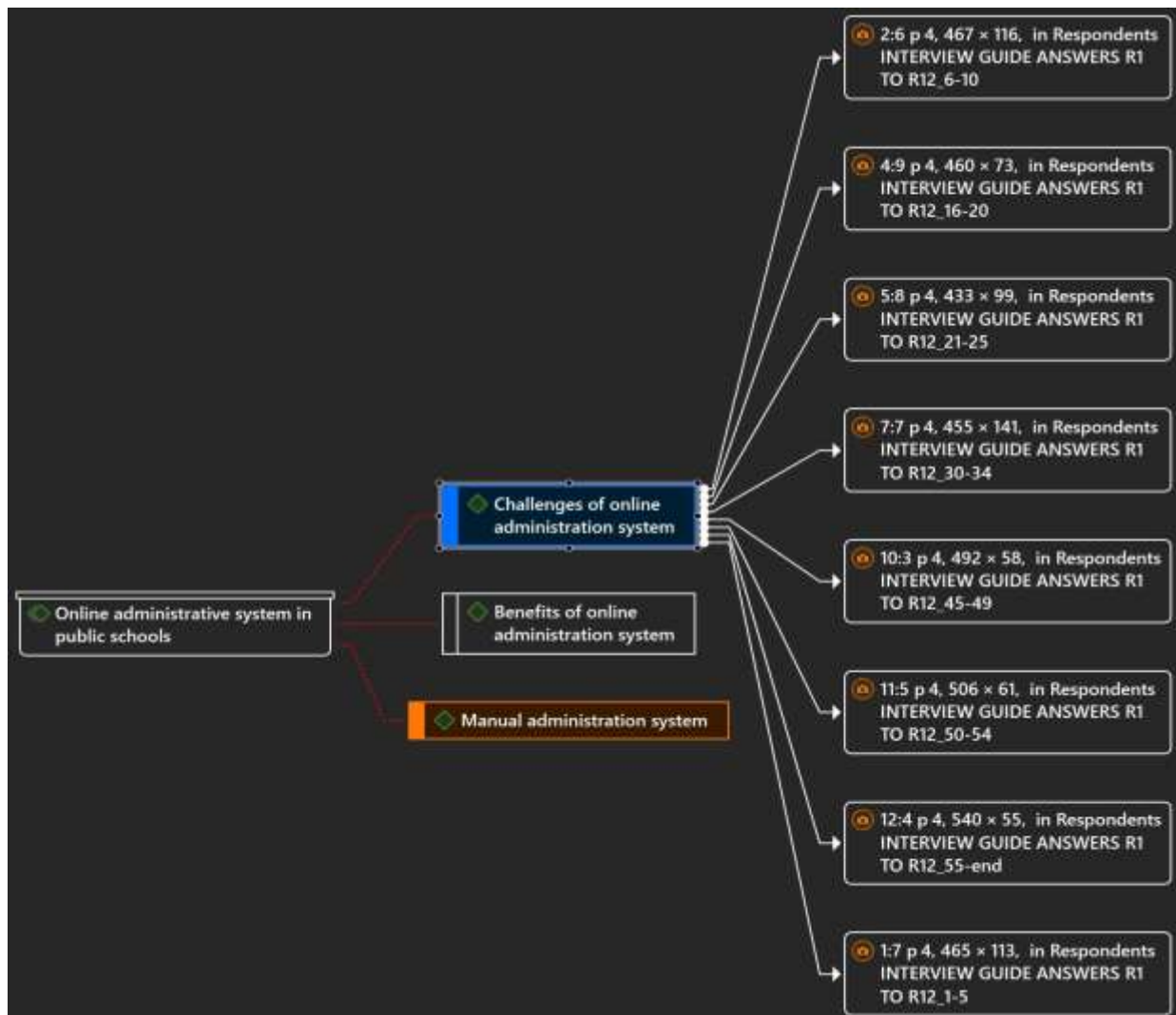
No internet amongst learners and laptops.

More absenteeism from both learners and teachers.

No skill of accessing the or working on the system by learners and teachers.

Source: Author's own

FIGURE 9: NETWORK QUOTES OF CHALLENGES OF THE ONLINE ADMINISTRATIVE SYSTEM



Source: Author's own

#### 4.4 EFFECT OF ONLINE ADMINISTRATIVE SYSTEM IN PUBLIC SCHOOLS

This theme addressed Research Objective 2: To assess the effect of an online administrative system in public schools. The category *Effects of the online administrative system* was divided into *Positive effects* and *Negative effects*, and each had three sub-themes. The sub-themes for *Positive effects* are: (1) *Increased educator productivity*; (2) *Improved teaching and learning*; and (3) *Improved learner support*. The sub-themes for *Negative effect* are: (4) *Lack of resources*; (5) *Lack of educator skills*; and (6) *Lack of learner skills*. These are discussed below.

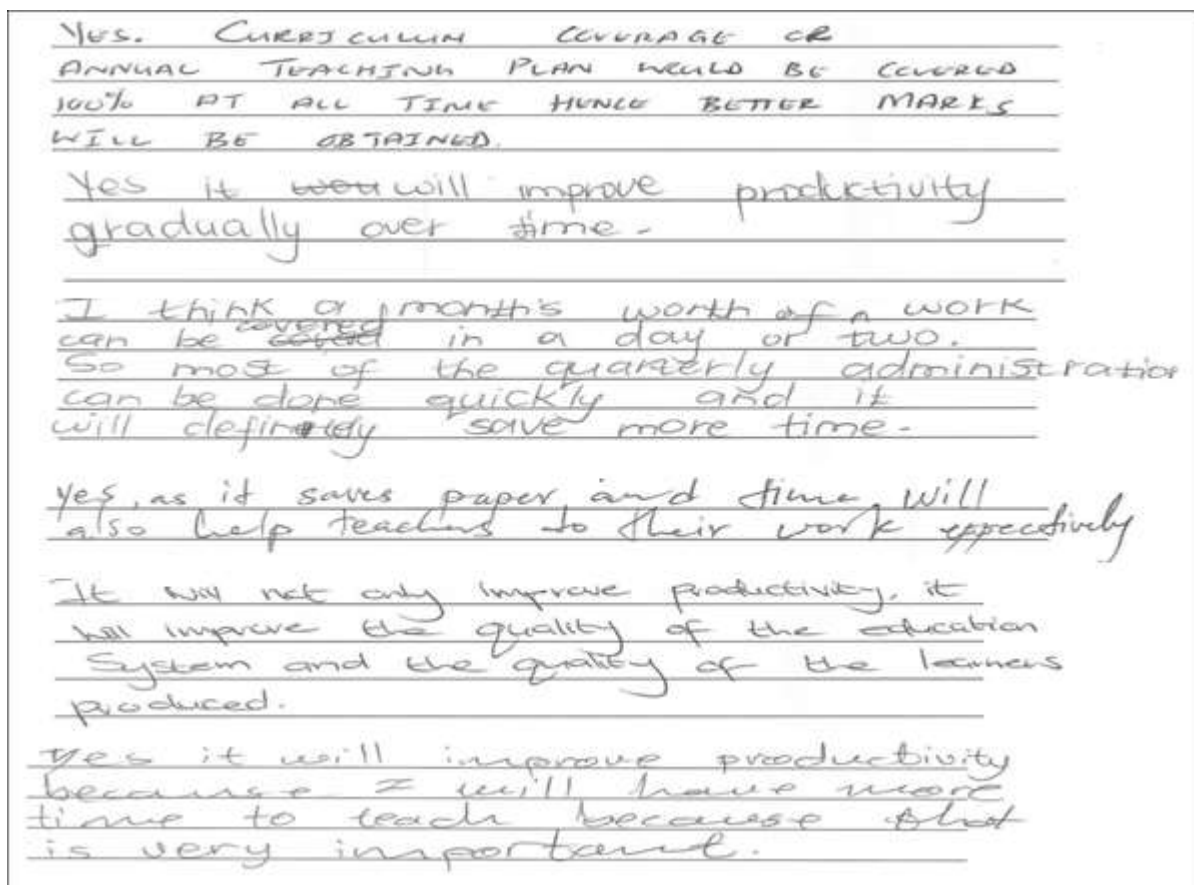
#### 4.4.1 Positive effect of online administrative system

This section discusses the positive effects of an online administration system on educators.

##### 4.4.1.1 Educator productivity

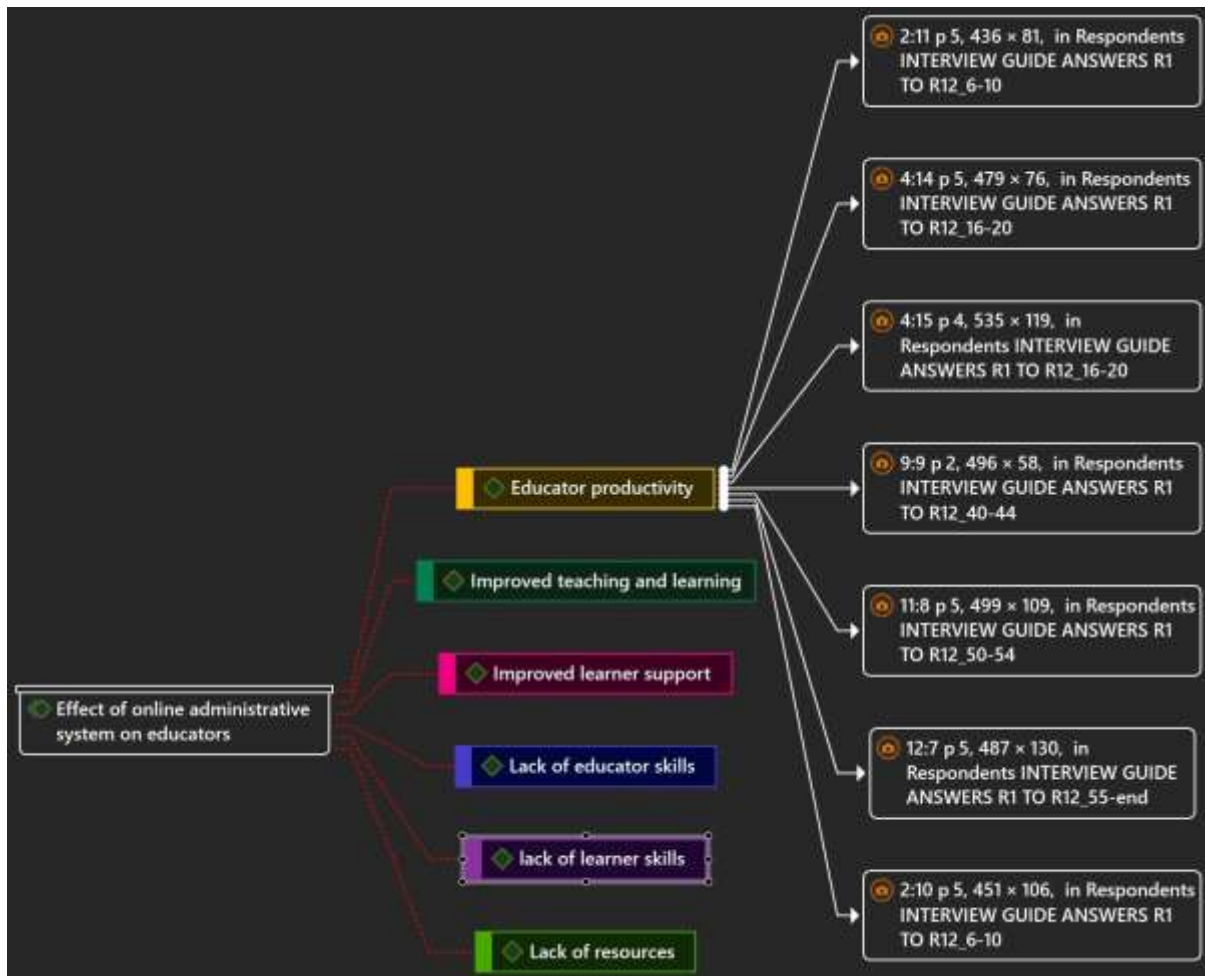
The sub-theme had seven supporting quotes coded, of which some of these quotes is shown below in Figure 10 and the seven is illustrated in Figure 11, indicating the educators' productivity. This study found that the productivity of educators in public schools would increase with the use of an online system. It was found that an online administrative system would save educators time that could be dedicated to teaching and learning. Participants indicated that using an online system is an important factor in improving learner performance. The sub-theme hereafter focuses on the improvement of teaching and learning, of an implemented e-learning administrative system.

FIGURE 10: PARTICIPANTS' QUOTES ON POSITIVE EFFECT OF ONLINE ADMINISTRATIVE SYSTEM



Source: Author's own

FIGURE 11: NETWORK QUOTES REGARDING EDUCATOR PRODUCTIVITY



Source: Author's own

#### 4.4.1.2 Improve teaching and learning.

The sub-theme had eleven supporting quotes coded, of which some of these quotes is shown below in Figure 12 and the eleven is illustrated in Figure 13, indicating the improvement of teaching and learning. Participants indicated that the use of online administrative systems can have a positive effect on teaching and learning. The participants alluded to less time spent on administration and more time spent on teaching, since an online system is paperless. Participants further noted that an online system can also enhance communication between learners and teachers. Students would not be required to take notes in class and could read online notes and watch educational videos in their own time. The sub-theme that follows is focused on how the system will help teachers to focus on the improvement of their learners.

FIGURE 12: PARTICIPANTS' QUOTES ON IMPROVED TEACHING AND LEARNING

It will help organise learning content in one location. Easily track learner progress and performance. It reduces learning and development costs. It will also keep organizations up to date with social learning experiences.

It would mean a paperless classroom, less time spent on getting manual administration work, and more time spent on the conducive teaching and learning.

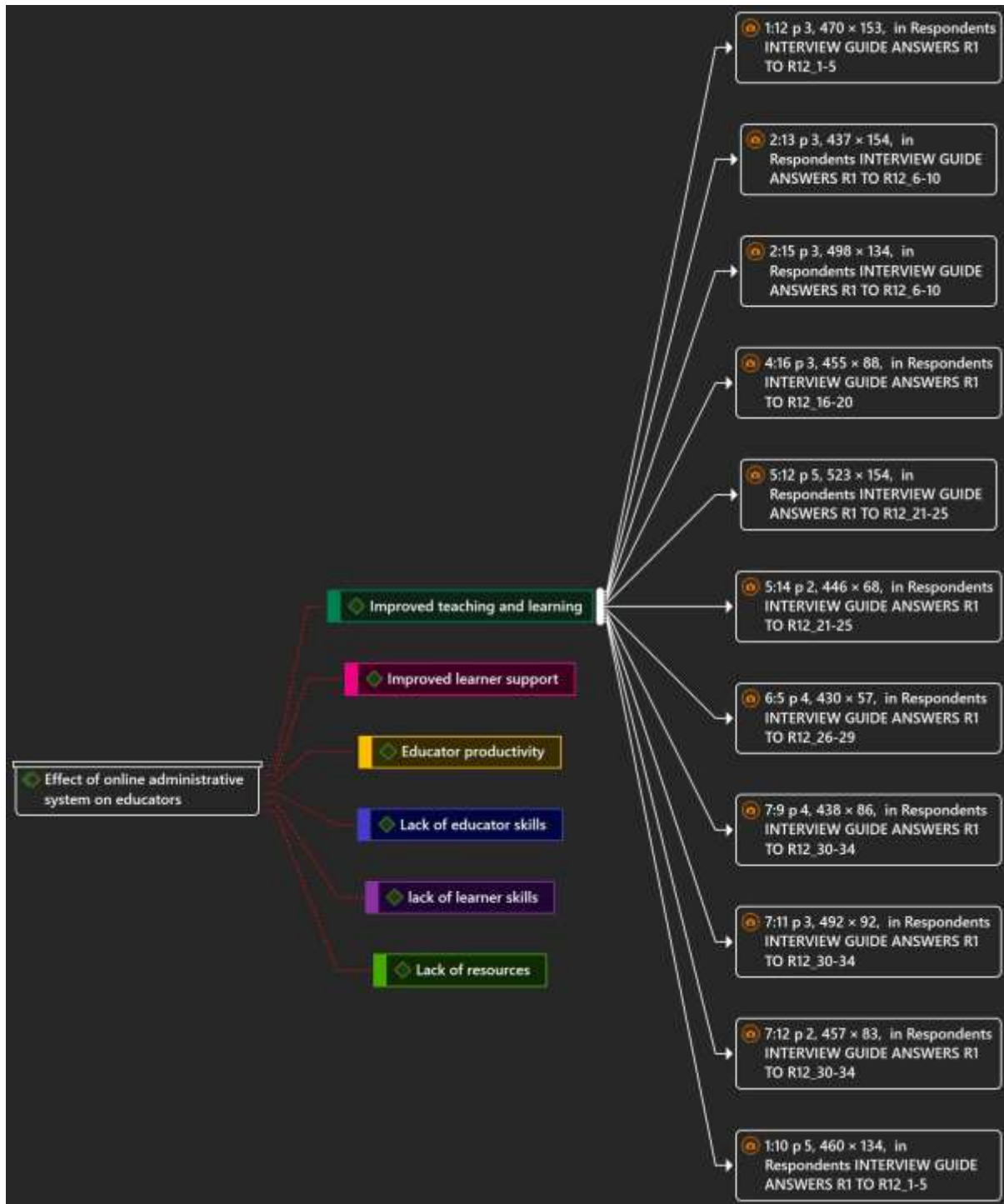
I CAN COMMUNICATE WITH MY LEARNERS AT ANY TIME. I CAN UPLOAD WORK WITHOUT HAVING TO WAIT FOR LEARNERS TO GET TO THE CLASSROOM. IN CASE OF ANY UNFORESEEN SITUATION LEARNERS CAN WRITE THEIR TESTS ONLINE WHICH WILL MAKE IT EXTREMELY EASY FOR ME AND SAVE ME A LOT OF TIME.

It will as more time will be directed towards teaching instead of learners copying notes. Learners will be more prepared when coming to the classroom.

I CAN UPLOAD TEACHING SLIDES/NOTES THAT LEARNERS CAN REFER TO WHEN PREPARING A TASK OR FOR AN EXAM. LEARNERS MARKS CAN BE UPLOADED THERE AS WELL WHICH WILL SAVE TIME. TEACHING VIDEOS CAN BE UPLOADED AS WELL / ONLINE TEACHING VIDEOS THAT LEARNERS CAN HAVE ACCESS TO.

Source: Author's own

FIGURE 13: NETWORK QUOTES FOR IMPROVED TEACHING AND LEARNING

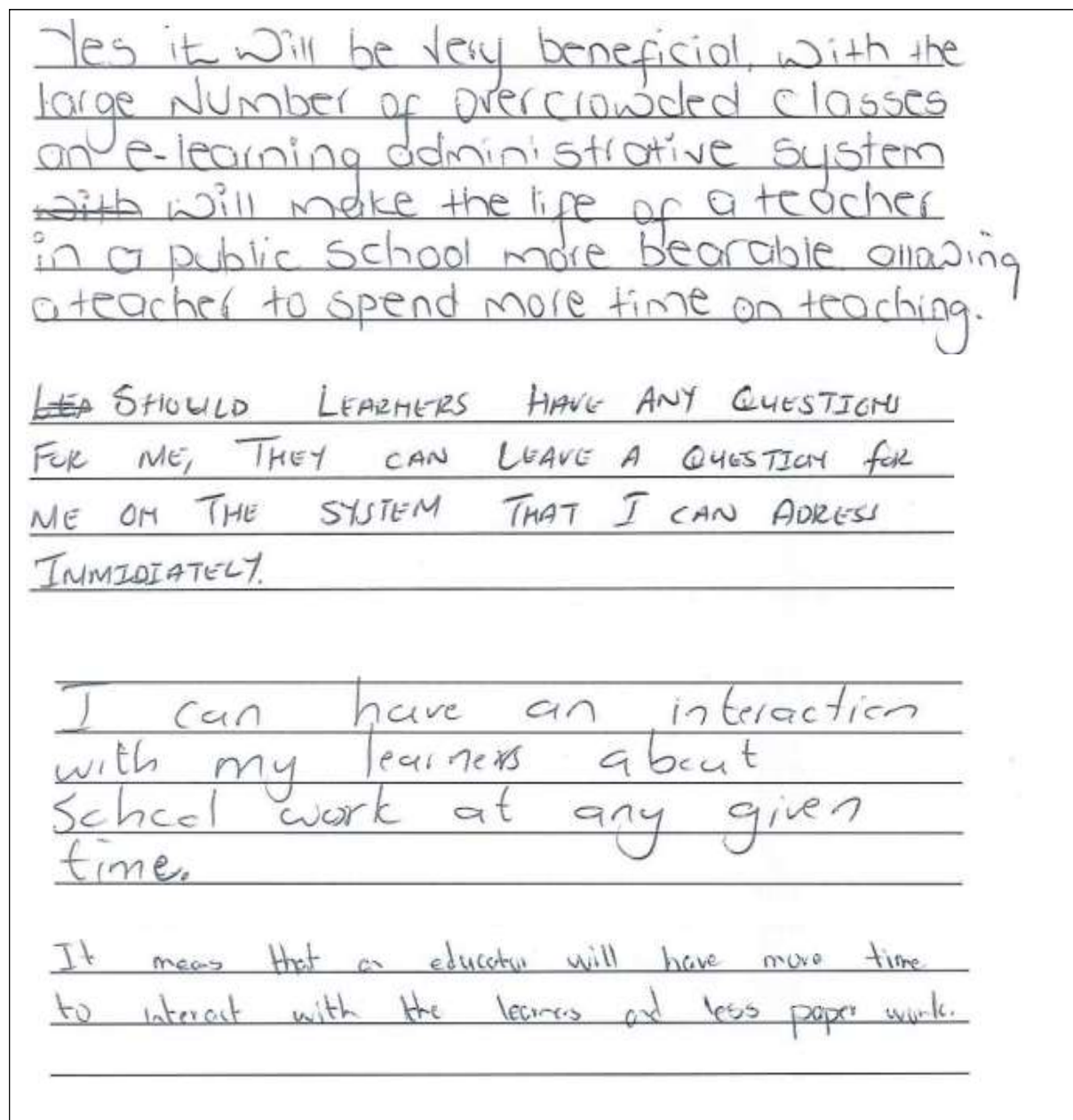


Source: Author's Own

#### 4.4.1.3 Improved support to learners

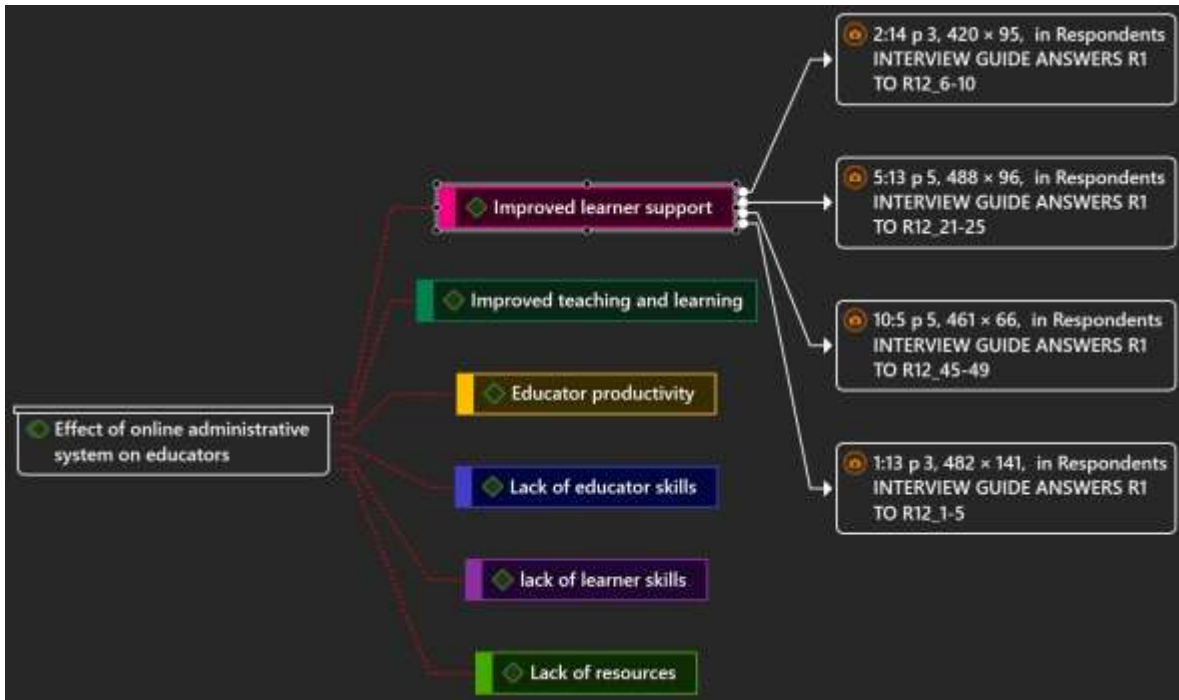
The sub-theme had four supporting quotes coded under it, with participants indicating, the improved support to learners, as seen from Figure 14 below, and illustrated in Figure 15. Participants indicated that a reduced workload resulting from using an online system would allow them to provide learners with more support in learning processes. Some noted that an online system would also allow learners to reach out to educators remotely for help.

FIGURE 14: IMPROVED SUPPORT TO LEARNERS



Source: Author's own

FIGURE 15: NETWORK QUOTES FOR IMPROVED LEARNER SUPPORT



Source: Author's own

#### 4.4.2 Negative effect of an online administrative system

This section discusses the negative effects of an online administrative system indicated by the study participants, namely a lack resources and the lack of skills of both educators and learners in public schools.

##### 4.4.2.1 Lack of resources

The sub-theme had ten supporting quotes coded under it, indicating, what the participants said regarding how the lack of resources in public schools will negatively affect the implementation of an online system, as some of the quotes is coded in Figure 16 below, and the ten illustrated in Figure 17. Participants noted that a lack of resources will negatively affect the use of an online administration system in public schools. Participants stated that public schools are confronted with a lack of resources such as laptops and access to the internet. Another resource that is insufficient is electricity due to load shedding, which will impact access to and use of the online system. The lack of resources would affect both learners and educators.

FIGURE 16: PARTICIPANTS' QUOTES ON LACK OF RESOURCES

The availability of resources is usually a challenge in public schools and therefore that is the one of the challenges I foresee. If I have to make use of an e-learning system.

• NO COMPUTERS / LAPTOPS.

• LACK OF INTERNET CONNECTIVITY AVAILABLE.

No internet connection/availability amongst learners.

Lack of computer equipment in our school. Lack of departmental support of or funds from the school. Many learners do not have access to the internet or computers at their homes.

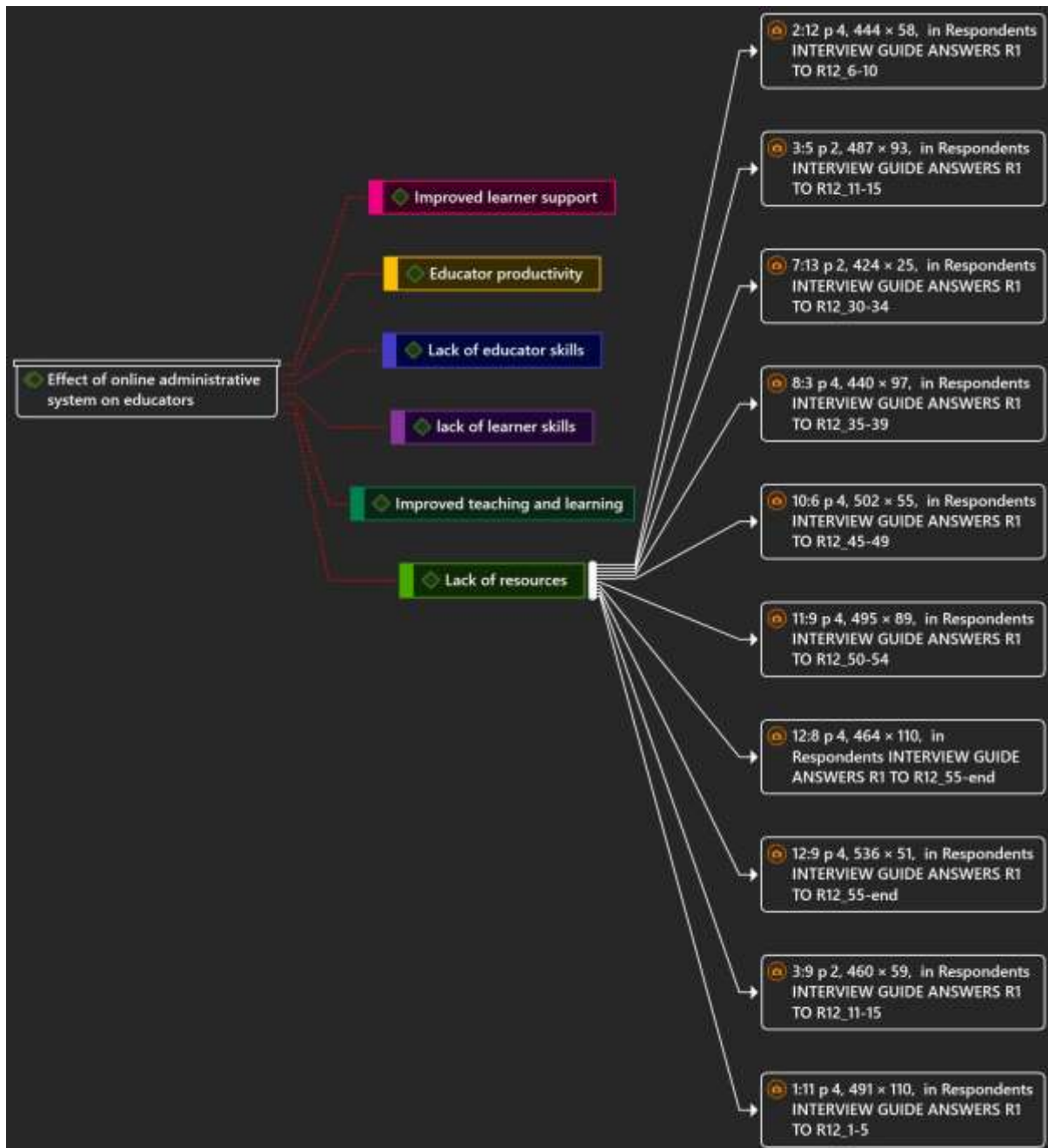
Systems crashing, loadshedding being a huge problem in our country, the systems may not necessarily be usable.

The department of education might not be able to provide me with a tablet or computer to do the administrative work.

• Network problems and loadshedding will make things difficult.

Source: Author's own

FIGURE 17: NETWORK QUOTES OF LACK OF RESOURCES



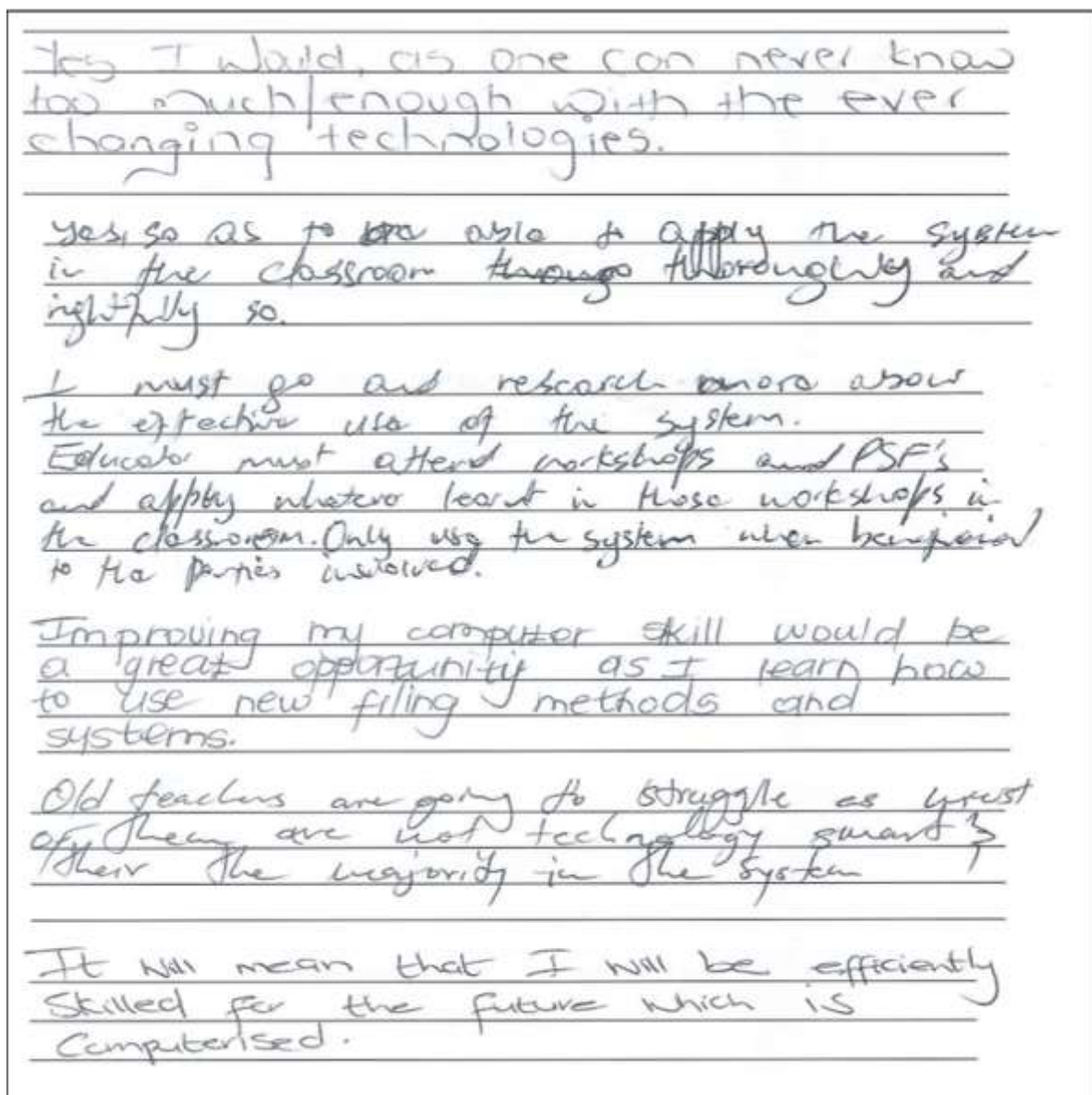
SOURCE: AUTHOR'S OWN

#### 4.4.2.2 Lack of educator skills

The sub-theme had nine supporting quotes coded under it, indicating, what the participants expressed regarding how a lack of educator skills can negatively affect the implementation of an online system in public schools, as some of the quotes is

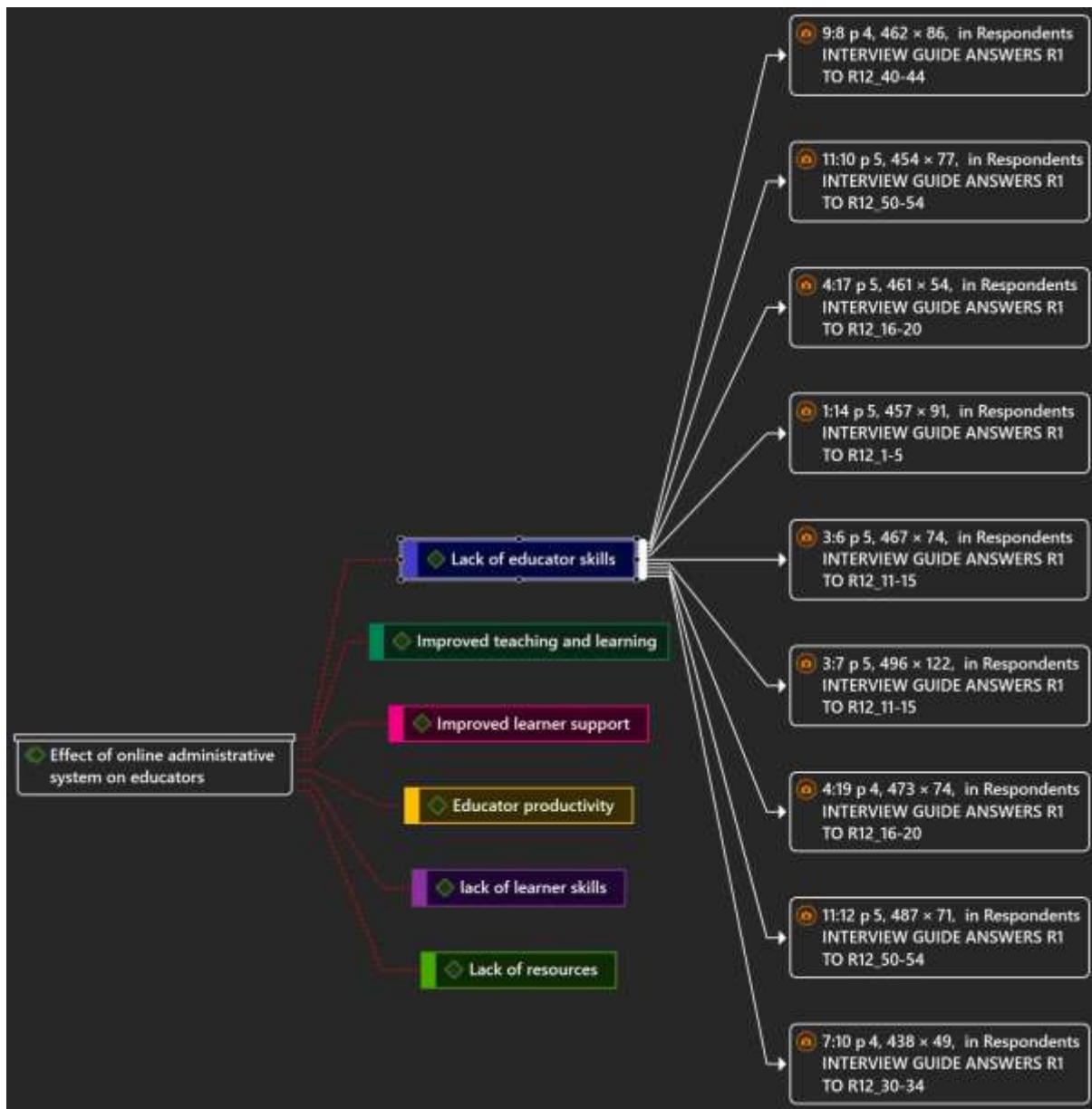
coded in Figure 18 below, and the nine is illustrated in Figure 19. Participants indicated that the lack of educator skills will negatively impact the implementation of an online system in public schools, as educators in public schools do not have the necessary skills to use an online system for teaching. However, participants indicated that they are willing to undergo the necessary training. One participant stated that older teachers would struggle the most when an online system is implemented. The next sub-theme focuses on the lack of the learners' skills.

Figure 18: PARTICIPANTS' QUOTE ON LACK OF EDUCATOR SKILLS



Source: Author's own

FIGURE 19: NETWORK QUOTES OF LACK OF EDUCATOR SKILLS



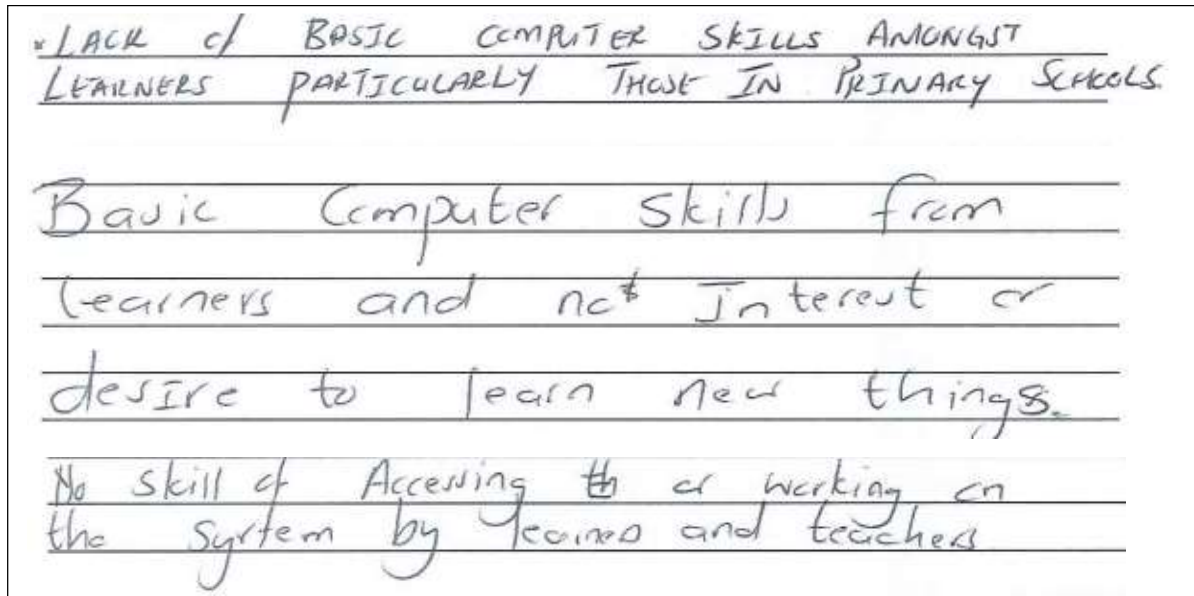
Source: Author's own

#### 4.4.2.3 Lack of learner skills

The sub-theme had three supporting quotes coded under it, indicating, what the participants expressed regarding lack of learner skills, as coded in Figure 20 below, and illustrated in Figure 21. Participants indicated that learners' lack of technology skills will negatively impact the implementation of an online system in public schools.

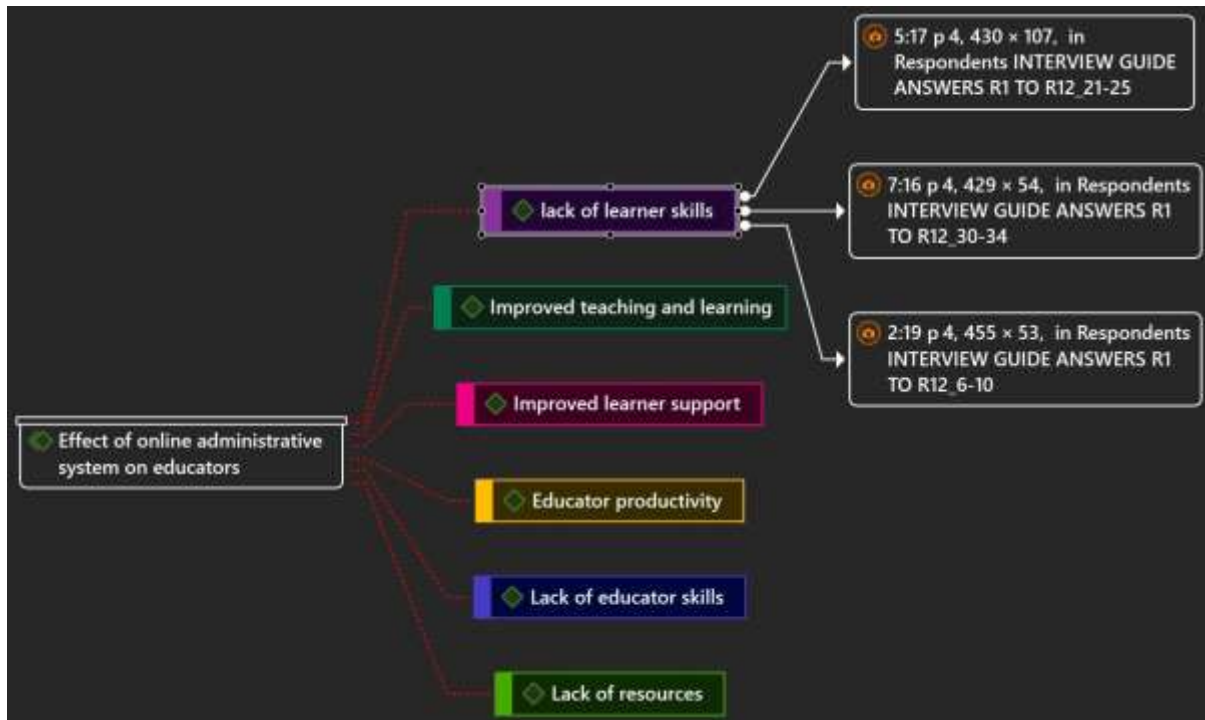
The participants noted that learners in public schools lack basic computer skills, which will negatively impact the implementation of an online system.

FIGURE 20: PARTICIPANTS' QUOTES ON LACK OF LEARNER SKILLS



**Source:** Author's own

FIGURE 21: NETWORK QUOTES OF LACK OF LEARNER SKILLS



Source: Author's own

#### 4.5 PROPOSED IMPROVEMENT OF EDUCATOR ADMINISTRATION IN PUBLIC SCHOOLS

This theme was aimed at addressing Research Objective 3: To recommend ways to improve the current state of educator administration in public schools by implementing an online system.

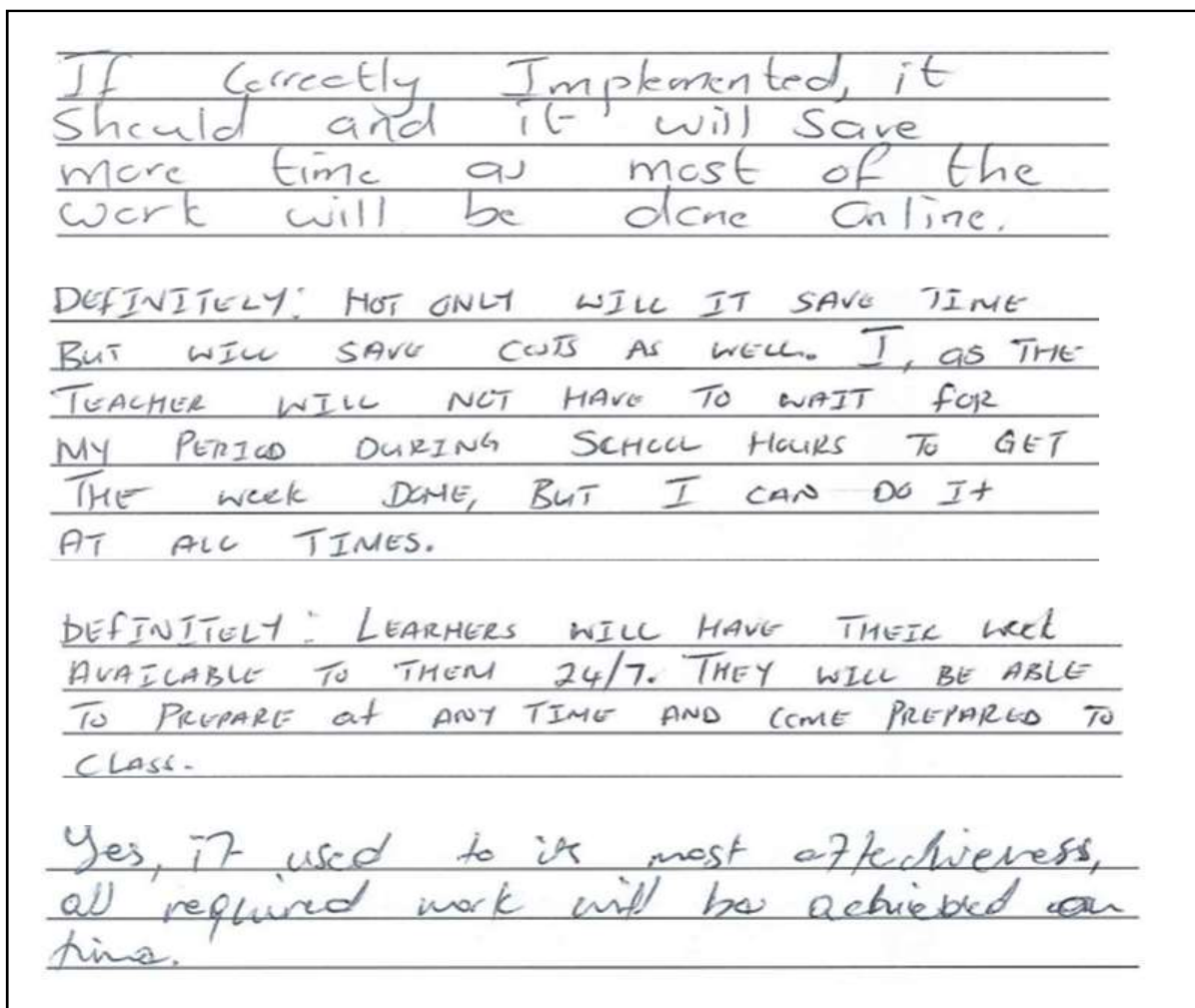
This theme has one sub-theme, detailed below.

##### 4.5.1 Implementation of the online administrative system for teaching and learning in public schools

This sub-theme had nineteen supporting quotes, as some of the quotes is coded in Figure 22 below, and the nineteen is illustrated in Figure 23, indicating the participants expression with regards to the implementation of an online administrative system for teaching and learning in public schools. Participants indicated the foreseen results of the implementation of an online administrative system for teaching and learning in

public schools. Through the collected data of the study, it was identified that the lack of resources and skills in public schools will negatively impact the implementation of an online administration system. Participants indicated that, if the system were to be implemented, they would be able to dedicate more time to teaching and learning, as the current manual administrative system is time-consuming. The implementation of an online system will afford educators more time to support their learners and promote learners' access to study materials. An online system will contribute to cutting costs by making study material online, rather than printing hard copies. Participants were positive that the use of an online system will ensure they complete their work on time.

FIGURE 22: PARTICIPANTS' QUOTES ON THE IMPLEMENTATION OF THE ONLINE ADMINISTRATIVE SYSTEM FOR TEACHING AND LEARNING IN PUBLIC SCHOOLS



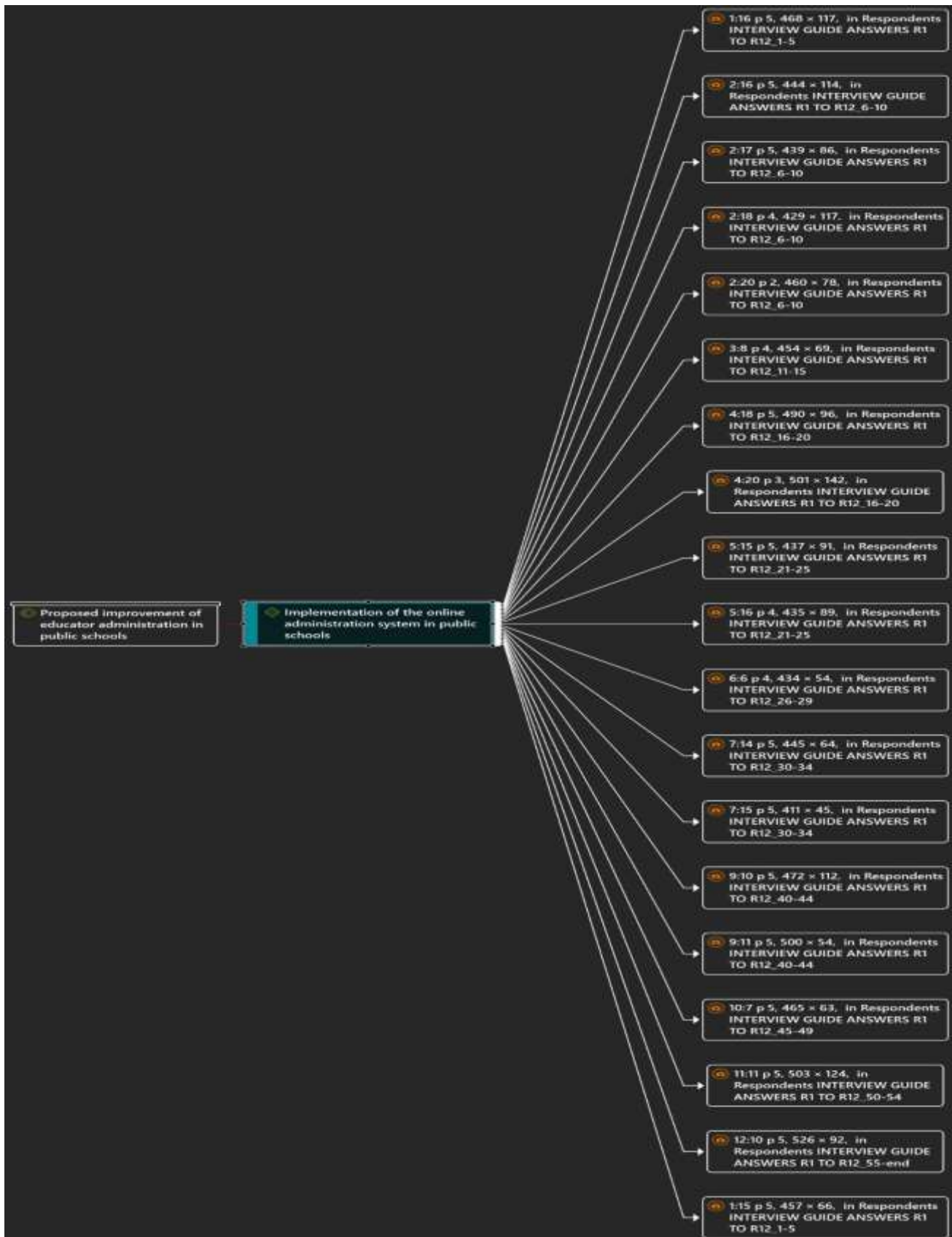
WORK WILL BE DONE FASTER AND AT AN EASIER PACE. I CAN EVEN CATCH UP FASTER WITH ANY ~~W~~ WORK THAT WAS LEFT BEHIND.

It would mean a paperless classroom, less time spent on ~~getting~~ manual administration work, and more time spent on ~~te~~ conducive teaching and learning.

YES. CURRICULUM COVERAGE OR ANNUAL TEACHING PLAN WOULD BE COVERED 100% AT ALL TIME HENCE BETTER MARKS WILL BE OBTAINED.

Source: Author's own

Figure 23: NETWORK QUOTATION OF THE IMPLEMENTATION OF THE ONLINE ADMINISTRATIVE SYSTEM FOR TEACHING AND LEARNING IN PUBLIC SCHOOLS



Source: Author's own

## **4.6 DISCUSSION OF FINDINGS**

The findings of the study are discussed in this section. The discussion covers the benefits and challenges associated with implementation of an e-learning administrative system and whether the online administrative system will improve the quality of education in public schools. It further discusses what effect an online administrative system will have on both educators and learners in public schools.

## **4.7 RESEARCH OBJECTIVES**

The researcher sought to explore the challenges of implementing an e-learning administrative system in public schools. The secondary objectives were:

- To examine how an online administrative system works.
- To assess the effects an online administrative system will have on educators; and
- To recommend ways to improve the current state of educator administration by implementing an online system.

### **4.7.1 Research Objective 1: To examine how an online administrative system works.**

Research Objective 1 was achieved through two sub-themes that emerged from the data: an online administration system, together with their benefits and challenges.

The study found that manual administration in public schools takes a lot of time, which educators could allocate to teaching and learning. The participants indicated the challenges experienced by educators with manual administrative systems, such as increased workload due to a lot of paperwork with little time to complete such tasks. The study further found that learners must make class notes manually, which is also time-consuming. With the manual administrative system in place, it is found through this study that important documentation goes missing, which is basically due to a lack of filling resources that the public schools do not have in place. This results in the negative impact of a manual administrative system for teaching and learning in public schools.

With regard to Research Objective 1, the study found that it would be beneficial to implement an online administrative system in schools, as it is cost-effective and time efficient. The study also found that implementing an online administrative system will improve efficiency in teaching and learning and minimise errors. The study further found that an online administrative system will ease the sharing of information between educators and learners, and that it will keep information safe and confidential.

However, public schools face numerous challenges in implementing an online system. These include a lack of resources, a lack of technical skills, and exposure to cybercrime.

#### **4.7.2 Research Objective 2:** To assess the effects of an online administrative system on educators.

Research Objective 2 was achieved through positive and negative effects that were identified through three sub-themes for each that emerged from the data. The positive effects are educator productivity, improved teaching and learning, and improved support to learners. The following discussion focuses on the positive effects.

The study found that one positive effect of an online administrative system is that educator productivity will increase in public schools. It is found in the study that an online administrative system will allow more time to be allocated to class sessions and thus improve the performance of learners. The study also found that the use of an online administrative system will positively influence teaching and learning in public schools. Going paperless will give educators more time to focus on learners and spend less time on administration. An online administrative system will also enhance communication between learners and educators. Participants said they would prefer students reading class notes online and watching educational videos. An online administrative system will thus improve learners' access to study materials.

Participants further noted that an online system will improve the teaching and learning processes and educators' support of learners. An online system will also reduce overcrowded classrooms. One of the participants indicated that an online administrative system will also allow learners to pose questions online, which can then be immediately addressed by the educator at any time.

**4.7.3 Research Objective 3:** To recommend resources for implementing an online administration system.

Research objective three aimed to recommend ways to improve the current state of educator administration by implementing the online system. Through the collected data in Chapter 4, it was found that under Objective 3, the proposed improvement of educators' administration in public schools consisted of one sub-theme implementation of the online administrative system for teaching and learning in public schools.

The study found that there is a need to address public schools' lack of resources and educators' and learners' lack of technological skills in order to enable implementation of an online system. The specific resources mentioned were network coverage, internet connectivity, and equipment (laptops and desktops).

The study found that educators who have been in the system too long, will be the ones struggling with the online administrative system if they are not willing to attend the necessary training, this has been indicated in the participants' quotes, by one of the participants. It is found a lack of educator skills in figure 4.17 of the participants quotes that improving computer skills will pose a great opportunity when learning how to use an online filling system in the online administrative system. Another respondent quoted in figure 4.17 that one will be efficiently computerised skilled in the future through making use of an online administrative system in public schools.

It is found under "lack of learners' skills" in figure 4.19 in the respondent quotes those learners in public schools do not have the necessary basic computer skills, and this contributes to a negative impact during the implementation of an online system. The study found that implementing an online system will contribute to the learners' desire to learn basic computer skills, but internet access will be a challenge.

Research objective three concludes that, as shown in Figure 4.21, the participants' quotes indicate that work will be concluded faster and that work that was delayed can easily be caught up with by both learners and educators. The study also found in figure

4.21 in the respondent quotes that the curriculum coverage or annual teaching plan of educators will always be covered one hundred per cent and that learners will obtain better results.

#### **4.8 CHAPTER SUMMARY**

The chapter presented the finding of the study, together with a discussion of the main findings. The next chapter concludes the report through an outline of the study, recommendations for practice and future studies, as well as the limitations of the study.

## CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 CHAPTER INTRODUCTION

This chapter outlines the answers to the research questions, recommendations for practice and future research, and reviews the study's limitations.

### 5.2 RESEARCH QUESTIONS RESOLUTIONS

This study explored the challenges and benefits associated with implementing an e-learning administrative system in public schools. The main research question of this study was:

*What are the benefits and challenges associated with implementing an e-learning administrative system in public schools?*

The main research question was answered through three research sub-questions.

To address the research questions, how the implementation of an online administrative system could improve the quality of education in public schools was examined. Furthermore, the effects that an online administrative system could have on educators and learners in public schools were determined. Lastly, ways that could improve the current state of educator administration in public schools were examined. This section discusses the key findings of the study. The discussion is organised around the research questions of this study.

#### **5.2.1 Will the implementation of the online administrative system improve the quality of education in public schools?**

The research findings revealed that an e-learning administrative system could improve the quality of education. The current (manual) administrative system negatively impacts the time educators have available to spend with learners in teaching. Furthermore, the manual administrative system creates an additional workload for educators, which negatively impacts their productivity. Classes in public schools are

overcrowded, making it difficult for educators to focus on learners who need additional assistance. These findings are aligned with literature in this domain.

A study conducted by Saleem *et al.* (2020) reported that classroom management issues in public schools are related to the manual administrative duties' educators must carry out. Siegel (2022) reported that educators' productivity is negatively impacted by the time spent executing manual administration in the classroom, such as making notes on the chalkboard.

Abdel Jawad and Shalash (2020) reported that the introduction of an online system in teaching and learning increased educator productivity, which improved learners' academic performance. Panyajamorn *et al.* (2020) found that using an e-learning system improves the quality of education, as educators and learners are exposed to a wider variety of study materials which can be easily accessed at any time.

However, the present study found that implementing an e-learning system in public schools is subject to a number of challenges that would need to be addressed. These challenges include the poor resources available in public schools and the lack of learners' and educators' exposure to technology. This finding is aligned with literature.

Regmi and Jones (2020) found that public schools in remote areas of South Africa are characterised by poor internet connectivity, a lack of technological resources, and lack of exposure to the use of technology and the related equipment. Frehywot *et al.* (2013) reported that e-learning provides an opportunity to improve the quality of education in public schools; however, the implementation of e-learning should also consider the challenges, to ensure that the system is sustainable.

### **5.2.2 What effects does an online administrative system have on educators in public schools?**

This study found that implementing an e-learning administrative system in public schools could have both positive and negative effects on educators. An e-learning system could improve the productivity of the educators, as it would allow them to complete tasks faster. This finding is aligned with literature. Meyer and McNeal (2011)

found that educators reported being more productive when using an e-learning administrative system.

Another positive effect identified in the present study is that e-learning would improve the teaching and learning processes by allowing educators and learners to interact remotely. The present study further found that an e-learning system will allow educators to upload videos on subjects that the learners could not understand in class. Overall, the participant indicated that an e-learning system would improve the support they give learners. In addition, learners would be able to access a range of study materials remotely. In this regard, Regmi and Jones (2020) and Farrell and Brunton (2020) that, in e-learning systems, educators and learners engaged better, which has a positive effect on their performance.

However, this study also found that there may be negative effects of implementing an e-learning system. Some public schools lack computers and internet connectivity. A further complication noted by participants was loadshedding. In this regard, literature notes that implementation of an e-learning system in public schools would require that the challenges in low-resourced schools be addressed (Regmi & Jones, 2020).

The present study found that some educators do not having the required skills to use an e-learning system, and would thus require training, which finding is aligned with the view of Zweig and Stafford (2020) that implementing an e-learning system requires that educators be capacitated to use the system effectively, and that this should be done prior implementation.

### **5.2.3 What effects does an online administrative system have on learners in public schools?**

This study found that implementing an e-learning administrative system in public schools could have both positive and a negative effect on learners. Implementing an e-learning system would mean that learners in public schools could access different study materials, even remotely, thereby improving their performance. Abdel and Shalash (2020) found that, if learners have access to different study materials, it improves their understanding of the subject contents and, eventually, their overall academic performance.

An e-learning system would positively affect learners by allowing them to engage with their educators remotely, which will relieve the overcrowding in classrooms. The present study further found that an e-learning system would improve learners' learning. In this regard, literature notes that an e-learning system has different teaching and learning modes and is thus capable of catering to all students in a way they can understand (Regmi & Jones, 2020).

The present study found that the lack of resources in public schools negatively affect learners, a view supported by Mpungose (2020). Furthermore, the present study found that learners lack the basic computer skills to use an e-learning system effectively. Regmi and Jones (2020) also found that learners in public schools are often not exposed to basic computer skills, as the communities they live in often do not have libraries.

### **5.3 RECOMMENDATIONS**

The lack of educator and learner computer skills and lack of resources (computers, internet, and electricity) were found to be the major challenges in public schools with regard to implementing an e-learning system.

Therefore, the following recommendations are offered:

- The Department of Education should capacitate educators and learners with basic computer skills that will enable them to effectively use an e-learning system.
- The Department should also consider the costs that are associated with providing resources such as computers and access to the internet to public schools.
- The Department and schools should ensure that a proper plan for maintaining the system is in place, to ensure its sustainability.

### **5.4 STUDY LIMITATIONS**

The study identified three to four limitations, starting with the challenges the researcher experienced in conducting face-to-face interviews with the study populations. The

researcher could not make recordings due to the targeted population not being comfortable doing so. Respondents were not available for face-to-face interviews due to workload. It was a challenge to conduct the interviews based on the availability of the targeted population of the study. Furthermore, with the voluntary study process, respondents could decline to participate.

## **5.5 FUTURE RESEARCH**

Future studies on e-learning administrative systems could include samples drawn from private schools and include more regions. Such studies could also compare implementation of such systems in rural and urban areas. Future research could also determine the specific skills required by learners and educators to optimise use of the system. Longitudinal studies could examine the success of implementation of such systems and the long-term effects on learners' and educators' performance.

## **5.6 CONCLUDING REMARKS**

Overall, this study found that, while an e-learning system holds many advantages, such as relieving overcrowding of classrooms and enhancing learners' performance, implementing such a system in public schools faces major challenges, particularly a lack of computer skills and insufficient resources (computers, internet connectivity, and electricity).

The lack of resources and overcrowding in public schools in South Africa is one of the most significant issues that has to be addressed by the Department of Education. Some of the challenges in implementing an e-learning system are outside the control of the Department of Education, such as load shedding and cybercrime which would require additional resources to ameliorate. The implementation plan of an online system would therefore require consideration of these issues, together with maintenance, to ensure the system is sustainable.

## 6. REFERENCES

- Abdel Jawad, Y.A.L. & Shalash, B. 2020. The impact of e-learning strategy on students' academic achievement. Case study: Al-Quds Open University. *International Journal of Higher Education*, 9(6): 44. <https://doi.org/10.5430/ijhe.v9n6p44>
- Abdulkareem, A., Ismaila, A. & Jumare, M.A. 2018. Understanding the use of research paradigm and theory in the discipline of library and information science research: reflection on qualitative and quantitative approach. *Journal of Research in Librarianship*, 4(2): 24-32.
- Abfalter, D., Mueller-Seeger, J. & Raich, M. 2021. Translation decisions in qualitative research: a systematic framework. *International Journal of Social Research Methodology*, 24(4): 469-486.
- Abuatiq, A., Fike, G., Davis, C., Boren, D., Menke, R., Alham, A., Geraldine, F., Claudia, D., Denise, B. & Richell, M. 2017. E-learning in nursing: literature review. *International Journal of Nursing Education*, 9(2): 81-86.
- Abutabenjeh, S. & Jaradat, R. 2018. Clarification of research design, research methods, and research methodology: a guide for public administration researchers and practitioners. *Teaching Public Administration*, 36(3): 237-258.
- Adnan, M. & Anwar, K. 2020. Online learning amid the COVID-19 pandemic: students' perspectives. *Journal of Pedagogical Research*, 1: 45-51.
- Agung, A.S.N., Surtikanti, M.W., & Quinones, C.A. (2020). Students' perception of online learning during COVID-19 pandemic: a case study on the English students of STKIP Pamane Talino. *SOSHUM: Jurnal Sosial Dan Humaniora*, 10(2): 225-235.
- Al-Azawei, A., Parslow, P. & Lundqvist, K. 2016. Barriers and opportunities of e-learning implementation in Iraq: a case of public universities. *The International Review of Research in Open and Distributed Learning*, 17(5).
- Al-Fraihat, D., Joy, M. & Sinclair, J. 2020. Evaluating e-learning systems success: an empirical study. *Computers in Human Behaviour*, 102: 67-86.

Alharahsheh, H.H. & Pius, A. 2020. A review of key paradigms: Positivism VS interpretivism. *Global Academic Journal of Humanities and Social Sciences*, 2(3), 39-43.

Almaiah, M.A. & Almulhem, A. 2018. A conceptual framework for determining the success factors of e-learning system implementation using Delphi technique. *Journal of Theoretical and Applied Information Technology*, 96(17): 5962-5976.

Al Rawashdeh, A.Z., Mohammed, E.Y., Al Arab, A.R., Alara, M. & Al-Rawashdeh, B. 2021. Advantages and disadvantages of using e-learning in university education: analysing students' perspectives. *Electronic Journal of e-Learning*, 19(3): 107-117.

Amir, L.R., Tanti, I., Maharani, D.A., Wimardhani, Y.S., Julia, V., Sulijaya, B. & Puspitawati, R. 2020. Student perspective of classroom and distance learning during COVID-19 pandemic in the undergraduate dental study program Universitas Indonesia. *BMC Medical Education*, 20(1): 392. DOI: 10.1186/s12909-020-02312-0

Andel, S.A., De Vreede, T., Spector, P.E., Padmanabhan, B., Singh, V.K. & De Vreede, G.J. 2020. Do social features help in video-centric online learning platforms? A social presence perspective. *Computers in Human Behaviour*, 113(April): 106505. <https://doi.org/10.1016/j.chb.2020.106505>

Anwar, K. & Balcioglu, H. (2016). The relationship between transformational leadership characteristics and effectiveness: a case study of construction companies in Erbil. *International Journal of Science Technology and Management*, 5(2): 250-256.

Arkorful, V. & Abaidoo, N. 2015. The role of e-learning, advantages, and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, 12(1): 29-42.

Aziz, H.M., Othman, B.J., Gardi, B., Ahmed, S.A., Sabir, B.Y., Ismael, N.B., Hamza, P.A., Sorguli, S., Ali, B.J. & Anwar, G. 2021. Employee commitment: the relationship between employee commitment and job satisfaction. *Journal of Humanities and Education Development*, 3(3): 54-66. <https://doi.org/10.22161/jhed.3.3.6>

Bagata, D.T.R. (2020). EFL University students' perception of the use of online learning platform. *Jurnal Penelitian, Pendidikan, dan Pembelajaran*, 15(34).

Bailey, D.R. & Lee, A.R. (2020). Learning from experience in the midst of COVID-19: benefits, challenges, and strategies in online teaching. *Computer-Assisted Language Learning Electronic Journal*, 21(2):178-198. [https://www.researchgate.net/publication/343219357Learning\\_from\\_experience\\_in\\_the\\_midst\\_of\\_COVID-19\\_Benefits\\_challenges\\_and\\_strategies\\_in\\_online\\_teaching](https://www.researchgate.net/publication/343219357Learning_from_experience_in_the_midst_of_COVID-19_Benefits_challenges_and_strategies_in_online_teaching)

Bailey, M.D. & Michaels, D. 2019. An optimisation-based DSS for student-to-teacher assignment: classroom heterogeneity and teacher performance measures. *Decision Support Systems*, 119: 60-71.

Bali, S. & Liu, M.C. 2018. Students' perceptions toward online learning and face-to-face learning courses. *Journal of Physics: Conference Series*, 1108(1): 012094.

Banning, E.B. 2021. Sampled to death? The rise and fall of probability sampling in archaeology. *American Antiquity*, 86(1): 43-60.

Bearman, M. 2019. Eliciting rich data: a practical approach to writing semi-structured interview schedules. *Focus on Health Professional Education: A Multi-disciplinary Journal*, 20(3): 1-11.

Berndt, A.E. 2020. Sampling methods. *Journal of Human Lactation*, 36(2). <https://doi.org/10.1177/0890334420906850>

Bernhardt, V.L. (2000). *Designing and using databases for school improvement*. Larchmont, NY: Eye on Education.

Bogna, F., Raineri, A. & Dell, G. 2020. Critical realism and constructivism: merging research paradigms for a deeper qualitative study. *Qualitative Research in Organisations and Management. An International Journal* (Ahead of print). DOI: 10.1108/QROM-06-2019-1778

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77–101. doi: 10.1191/1478088706qp063oa [Taylor & Francis Online], [Google Scholar]

Bryman, A., Bell, E., Hirschsohn, P., Dos Santos, A., Du Toit, J., Masenge, A., Van Aardt, I. & Wagner, C. 2014. *Research methodology business and management contexts*. Cape Town: Oxford University Press.

Chang, V. 2016. Review and discussion: e-learning for academia and industry. *International Journal of Information Management*, 36(3): 476-485.

Daniel, B.K. 2019. Using the TACT framework to learn the principles of rigour in qualitative research. *Electronic Journal of Business Research Methods*, 17(3): 118-129.

Daniel, B.K. 2018. Empirical verification of the "TACT" framework for teaching rigour in qualitative research methodology. *Qualitative Research Journal*, 18(3): 262-275.

Definition (nd) Administrative system. [https://the-definition.com/term/administrative system](https://the-definition.com/term/administrative-system) Date of access: 20 November 2022.

Demir, A., Maroof, L., Sabbah Khan, N.U. & Ali, B.J. (2020). The role of e-service quality in shaping online meeting platforms: a case study from higher education sector. *Journal of Applied Research in Higher Education*. <https://doi.org/10.1108/JARHE-08-2020-0253>

Dong, C., Cao, S. & Li, H. 2020. Young children's online learning during COVID-19 pandemic: Chinese parents' beliefs and attitudes. *Children and Youth Services Review*, 118(August), 105440. <https://doi.org/10.1016/j.childyouth.2020.105440>

Dube, B. (2020). Rural online learning in the context of COVID 19 in South Africa: Evoking an inclusive education approach. *REMIE: Multidisciplinary Journal of Educational Research*, 10(2), 135-157.

Dugar, D. (2018). *Public Self Service Technology (SST): Designing for Trust: Factors enhancing user's trust towards a public SST* [Dissertation]. <http://kth.diva-portal.org/smash/record.jsf?pid=diva2%3A1261644&dswid=9193>,

Du Plessis, P. & Mestry, R. (2019). Teachers for public schools — a challenge for South Africa. *South African Journal of Education*, 39.

Edo, B.L. & Nwosu, I.C. 2018. Working environment and teachers' productivity in secondary schools in Port-Harcourt metropolis. *International of Innovative Psychology & Social Development*, 6(4): 39-49.

Elfaki, N.K., Abdulraheem, I. & Abdulrahim, R. 2019. Impact of e-learning vs traditional learning on student's performance and attitude. *International Journal of Medical Research & Health Sciences*, 8(10): 76-82.

Etikan, I. 2017. Sampling and sampling methods. *Biometrics and Biostatistics International Journal*, 5(6). <https://doi.org/10.15406/bbij.2017.05.00149>

Fitria, T.N. 2021. Implementation of institution's e-learning platform in teaching online at ITB AAS Indonesia. *EDUTECH: Journal of Education And Technology*, 4(3): 493-503.

Farrell, O. & Brunton, J. 2020. A balancing act: a window into online student engagement experiences. *International Journal of Educational Technology in Higher Education*, 17(1): 25. <https://doi.org/10.1186/s41239-020-00199-x>

Forero, R., Nahidi, S., De Costa, J., Mohsin, M., Fitzgerald, G., Gibson, N. & Aboagye-Sarfo, P. (2018). Application of four-dimension criteria to assess the rigour of qualitative research in emergency medicine. *BMC Health Services Research*, 18(1): 120.

Frehywot, S., Vovides, Y., Talib, Z., Mikhail, N., Ross, H., Wohltjen, H., Bedada, S., Korhumel, K., Koumare, A.K. & Scott, J. 2013. E-learning in medical education in resource-constrained low- and middle-income countries. *Human Resources for Health*, 11(1): 4. <https://doi.org/10.1186/1478-4491-11-4>

FutureLearn. 2021. *Data-collecting instruments: an overview of instruments to collect qualitative or quantitative data for analysis.* <https://www.futurelearn.com/info/courses/research-construction-management/0/steps/75098>: Date of access: 21 October 2021.

Gonzales, M.M. & Jackson, I. 2020. Going the distance: what school educators can learn from one-to-one laptop schools. *Journal of School Administration Research and Development*, 5: 55-60.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods*, 18(1), 59-82.

Hariato, I., Hidayat, A. & Koes, S. 2016. Analisis Perencanaan Pembelajaran Guru Fisika SMA dalam Mengintegrasikan Keterampilan Berpikir Kreatif Siswa, Pros Semnas Pend. *IPA Pascasarjana UM*, 1: 301-307.

Haryono. 2017. Teknologi Pendidikan dan Pembelajaran Abad 21. *Prosiding Seminar Nasional Teknologi Pendidikan*, pp. 425-436.  
<http://blog.unnes.ac.id/fransharyono/2017/07/20/teknologi-pendidikan-dan-pembelajaran-abad-21/>

Huang, Y.M. & Chiu, P.S. 2015. The effectiveness of a meaningful learning-based evaluation model for context-aware mobile learning. *British Journal of Educational Technology*, 46(2): 437-447.

Hwang, G.J., Wang, S.Y. & Lai, C.L. (2021). Effects of a social regulation-based online learning framework on students' learning achievements and behaviours in mathematics. *Computers & Education*, 160, 104031.

Imhangbe, O.S., Victor, O.I. & Osarenren-Osaghae, R.I. 2020. Teachers' classroom job performance: how teachers' tasks impact their classroom job performance in Edo central school district, Nigeria. *Journal of Education*, 200(3): 164-174.

Isaacs, W., Duma, S. & Mayers, P. (2013). Registered nurses' role in diagnosing childhood tuberculosis in South Africa. *African Journal of Nursing and Midwifery*, 15(1): 42-53.

Jackman, P.C., Schweickle, M.J., Goddard, S.G., Vella, S.A. & Swann, C. (2022). The event-focused interview: what is it, why is it useful, and how is it used? *Qualitative Research in Sport, Exercise, and Health*, 14(2): 167-180.

Janis, I. 2022. Strategies for establishing dependability between two qualitative intrinsic case studies: a reflexive thematic analysis. *Field Methods*, 1525822X211069636.

Jones, M.A., Alamilla, M.T., Castro, A.D., Moh, N.J., & Rash, A. 2019. Evaluating the effectiveness of the Standard Integrated Government Tax Administration System provided by the Central Information Technology Office. *Journal of MIS@ UB*, 3(1).

Khan, M. L., & Idris, I. K. (2019). Recognise misinformation and verify before sharing: a reasoned action and information literacy perspective. *Behaviour & Information Technology*, 38(12), 1194-1212.

Khatri, K. K. (2020). Research paradigm: A philosophy of educational research. *International Journal of English Literature and Social Sciences*, 5(5), 1435-1440

Kiger, M.E. & Varpio, L. 2020. Thematic analysis of qualitative data: AMEE Guide No. 131. *Medical Teacher*, 42(8): 846-854.

Kkese, E. 2020. McGurk effect and audiovisual speech perception in students with learning disabilities exposed to online teaching during the COVID-19 pandemic. *Medical Hypotheses*, 144(July): 110233. <https://doi.org/10.1016/j.mehy.2020.110233>

Kotler, P., & Armstrong, G. (2004). *Principles of Marketing* (10th Ed.). Upper Saddle River: Prentice Hall.

Lage-Cala, S., Folgueras-Díaza, M.B., Alonso-Hidalgoa, M., García-Menéndezb, D. & Fernández-Garcíab, F.J. 2020. Investigation of the effectiveness of online learning tools for energy performance certificates preparation. *Energy Reports*, 6: 609-614. <https://doi.org/10.1016/j.egyr.2019.09.034>

Lai, P. (2017). The Literature Review of Technology Adoption Models and Theories for the Novelty Technology. *JISTEM - Journal of Information Systems and Technology Management*, 14(1), 21-38. DOI:10.4301/s1807-17752017000100002

Lamm, A.J. & Lamm, K.W. 2019. Using non-probability sampling methods in agricultural and extension education research. *Journal of International Agricultural and Extension Education*, 26(1): 52-59.

Lehdonvirta, V., Oksanen, A., Räsänen, P. & Blank, G. 2021. Social media, web, and panel surveys: using non-probability samples in social and policy research. *Policy & Internet*, 13(1): 134-155.

- Liamputtong, P., & Ezzy, D. (2005). *Qualitative research methods. Second*. Melbourne: Oxford university press.
- Liberts, M. (2021). Unequal probability sampling for the European Interview Health Survey in Latvia. *Summer School on Survey Statistics 2021*. p. 56.
- Louho, R., Kallioja, M., & Oittinen, P. (2006). Factors affecting the use of hybrid media applications. *Graphic arts in Finland*, 35(3), 11-21.
- Mackieson, P., Shlonsky, A. & Connolly, M. 2019. Increasing rigor and reducing bias in qualitative research: a document analysis of parliamentary debates using applied thematic analysis. *Qualitative Social Work*, 18(6): 965-980.
- Masimba, F., & Zuva, T. (2021). Individual acceptance of technology: a critical review of technology adoption models and theories. *Ind J Human Soc Sci*, 2(9), 37-48.
- McDonald, E.W., Boulton, J.L. & Davis, J.L. 2018. E-learning and nursing assessment skills and knowledge — an integrative review. *Nurse Education Today*, 66: 166-174.
- Melnikovas, A. 2018. Towards an explicit research methodology: adapting research onion model for futures studies. *Journal of Futures Studies*, 23(2): 29-44.
- Mesfin, G., Ghinea, G., Grønli, T.M. & Hwang, W.Y. 2018. Enhanced agility of e-learning adoption in high schools. *Journal of Educational Technology and Society*, 21(4): 157-170.
- Mesghi, B., Ponomareva, S., & Ugnich, E. (2019). E-learning in higher inclusive education: needs, opportunities, and limitations. *International Journal of Educational Management*.
- Meyer, K.A. & McNeal, L. 2011. How online faculty improve student learning productivity. *Online Learning*, 15(3). <https://doi.org/10.24059/olj.v15i3.169>
- Montazer, G.A. & Al-Rikabi, Y.K. 2021, May. Identifying the obstacles of implementing e-learning in Iraqi universities. *7th International Conference on Web Research (ICWR)* (pp. 24-34). IEEE.

Mpungose, C.B. 2020. Emergent transition from face-to-face to online learning in a South African university in the context of the Coronavirus pandemic. *Humanities and Social Sciences Communications*, 7(1): 1-9. <https://doi.org/10.1057/s41599-020-00603-x>

Msiza, G. M., Malatji, K. S., & Mphahlele, L. K. (2020). Implementation of an e-Learning Project in Tshwane South District: Towards a Paperless Classroom in South African Secondary Schools. *Electronic Journal of e-Learning*, 18(4), pp299-309.

Narathakoon, A., Sapsirin, S. & Subphadoongchone, P. 2020. Beliefs and classroom assessment practices of English teachers in primary schools in Thailand. *International Journal of Instruction*, 13(3): 137-156.

Nguyen, H., Ahn, J., Belgrave, A., Lee, J., Cawelti, L., Kim, H.E., Prado, Y., Santagata, R. & Villavicencio, A. 2021, February. Establishing trustworthiness through algorithmic approaches to qualitative research. *International Conference on Quantitative Ethnography* (pp. 47-61). Springer, Cham.

Oktaviani, L. & Desiarti, E.M. 2019. A lecturer's and students' perspective toward ethnic snake game in speaking class at Universitas Muhammadiyah Malang. *Teknosastik*, 15(2): 53-59.

Olushola, T., & Abiola, J. O. (2017). The efficacy of technology acceptance model: A review of applicable theoretical models in information technology researches. *Journal of Research in Business and Management*, 4(11), 70-83.

Ospina, S.M., Esteve, M. & Lee, S. (2018). Assessing qualitative studies in public administration research. *Public Administration Review*, 78(4): 593-605.

Panyajamorn, T., Suanmali, S., Kohda, Y., Chongphaisal, P. & Supnithi, T. 2018. Effectiveness of e-learning design in Thai public schools. *Malaysian Journal of Learning and Instruction*, 15(1): 1-34.

Pelletier, L.G. & Sharp, E.C. 2009. Administrative pressures and teachers' interpersonal behaviour in the classroom. *Theory and Research in Education*, 7(2): 174-183.

Pham, L., Limbu, Y.B., Bui, T.K., Nguyen, H.T. & Pham, H.T. 2019. Does e-learning service quality influence e-learning student satisfaction and loyalty? Evidence from Vietnam. *International Journal of Educational Technology in Higher Education*, 16(1): 1-26.

Pustika, R. 2020. Future English teachers' perspective towards the implementation of e-learning in Covid-19 pandemic era. *Journal of English Language Teaching and Linguistics*, 5(3): 383-391.

Rabiman, R., Nurtanto, M. & Kholifah, N. 2020. Design and development e-learning system by learning management system (LMS) in vocational education. *Online Submission*, 9(1): 1059-1063.

Ragab, M. A., & Arisha, A. (2018). Research methodology in business: A starter's guide. *Management and organizational studies*, 5(1), 1-14.

Raspopovic, M., Cvetanovic, S., Medan, I. & Ljubojevic, D. 2017. The effects of integrating social learning environment with online learning. *The International Review of Research in Open and Distributed Learning*, 18(1): 141-160.

Raza, S. A., Qazi, W., Khan, K. A., & Salam, J. (2021). Social isolation and acceptance of the learning management system (LMS) in the time of COVID-19 pandemic: an expansion of the UTAUT model. *Journal of Educational Computing Research*, 59(2), 183-208.

Regmi, K. & Jones, L. 2020. A systematic review of the factors — enablers and barriers — affecting e-learning in health sciences education. *BMC Medical Education*, 20(1): 91. <https://doi.org/10.1186/s12909-020-02007-6>

Ronzani, C.M., Da Costa, P.R., Da Silva, L.F., Pigola, A. & De Paiva, E.M. 2020. Qualitative methods of analysis: an example of Atlas.ti™ software usage. *Revista Gestão and Tecnologia*, 20(4): 284-311.

Rusli, R., Rahman, A. & Abdullah, H. (2020). Student perception data on online learning using heutagogy approach in the Faculty of Mathematics and Natural Sciences of Universitas Negeri Makassar, Indonesia. *Data in Brief*, 29, 105152. <https://doi.org/10.1016/j.dib.2020.105152>

Saleem, A., Muhammad, Y. & Masood, S. 2020. Classroom management challenges and administrative support in elementary schools: experiences of novice public-school teachers. *UMT Education Review*, 3(2): 29-46.

Sari, F.M., & Wahyudin, A.Y. (2019). Blended learning: the responses from non-English students in the Indonesian tertiary context. *Teknosastik*, 17(1): 23-28.

Saunders, M. & Lewis, P. 2018. *Doing research in business and management: an essential guide to planning your project*. 2nd ed. Harlow: Pearson.

Saunders, M., Lewis, P. & Thornhill, A. (2016). *Research methods for business students*. 7th ed. Essex: Pearson.

Scharp, K. M., & Sanders, M. L. (2019). What is a theme? Teaching thematic analysis in qualitative communication research methods. *Communication Teacher*, 33(2), 117-121.

Setyaningsih, E. 2020. Face to face or online learning: students' perspectives on blended learning in Indonesia. *Journal of English Language Studies*, 5(1): 1-14.

Siegel, J. 2022. Factors affecting notetaking performance. *International Journal of Listening*, 0(0): 1-13. <https://doi.org/10.1080/10904018.2022.2059484>

South African Government Gazette. Protection of Personal Information Act 4 of 2013. <http://www.justice.gov.za/legislation/acts/2013-004.pdf>

Sreejesh, S., Mohapatra, S., & Anusree, M.R. 2014. Business research design: Exploratory, descriptive, and causal designs. In *Business Research Methods* (pp. 25-103). Springer, Cham.

Tahir, T. & Bukhari, S.A. 2018. Role of teachers in dealing student's disruptive behaviour in classroom at primary level. *Research Journal Social Sciences*, 7(1).

Tiyar, F.R. & Khoshsima, H. (2015). Understanding students' satisfaction and continuance intention of e-learning: application of Expectation–Confirmation Model. *World Journal on Educational Technology*, 7(3): 157-166.

Tsai, P.-W., Tsai, P.-S., Ku, P., Istanda, V. & Gabe, T. 2017. Application of e-learning in teaching of English as a second language. In J.-S. Pan, V. Snášel, T.-W. Sung & X.D. Wang (Eds.), *Intelligent data analysis and applications* (pp. 163-170). Springer International Publishing. <https://doi.org/10.1007/978-3-319-48499-020>

Tsekea, S., & Chigwada, J. P. (2020). COVID-19: Strategies for positioning the university library in support of e-learning. *Digital Library Perspectives*.

Tuval-Mashiach, R. 2021. Is replication relevant for qualitative research? *Qualitative Psychology*, 8(3): 365.

United Nations Development Programme (UNDP). (2019). Human Development Index and its components. New York: UNDP. <http://hdr.undp.org/en/content/table-1-human-development-index-and-its-components#a> Date of access: 7 April 2022.

van de Heyde, V., & Siebrits, A. (2019). The ecosystem of e-learning model for higher education. *South African Journal of Science*, 115(5-6), 1-6.

Vargo, S. L., Akaka, M. A., & Wieland, H. (2020). Rethinking the process of diffusion in innovation: A service-ecosystems and institutional perspective. *Journal of business research*, 116, 526-534.

Ventayen, R.J.M. 2018. Teachers' readiness in online teaching environment: a case of Department of Education teachers. *PSU Journal of Education, Management and Social Sciences*, 2(1).

Wang, Y., Liu, X. & Zhang, Z. 2018. An overview of e-learning in China: history, challenges, and opportunities. *Research in Comparative and International Education*, 13(1): 195-210.

Wang, Y., Wang, S., Wang, J., Wei, J., & Wang, C. (2018). An empirical study of consumers' intention to use ride-sharing services: Using an extended technology acceptance model. *Transportation*, 60(2), 1–19.

Wardani, A.D., Gunawan, I., Kusumaningrum, D.E., Benty, D.D.N., Sumarsono, R.B., Nurabadi, A., Handayani, L., Ubaidillah, E. & Maulina, S. 2020, December. How teachers optimise the role of classroom administration in learning? *Proceedings of the*

6th International Conference on Education and Technology (ICET 2020) (pp. 422-426).

Wijaya, E.Y., Sudjimat, D.A. & Nyoto, A. 2016. Transformasi Pendidikan Abad 21 Sebagai Tuntutan Pengembangan Sumber Daya manusia Di Era Global, *Prosiding Seminar Nasional Pendidikan Matematika*, Vol. 1, pp. 263-278.

Wilde Ganzen Foundation (nd) *Setting up administrative systems*. Change the Game Academy. <https://www.changethegameacademy.org/shortmodule/setting-up-administrative-systems/> Date of access: 20 November 2022.

Wong, K.-T., Goh, P., Rosma, O., & Rahmat, M. (2013). Understanding Student Teachers' Behavioural Intention to Use Technology: Technology Acceptance Model (TAM) Validation and Testing. *International Journal of Instruction*, 6(1), 89-104, <https://eric.ed.gov/?id=ED53984>

Xu, Z. & Shi, Y. 2018. Application of constructivist theory in flipped classroom — take college English teaching as a case study. *Theory and Practice in Language Studies*, 8(7): 880-887.

Yawson, D.E. & Yamoah, F.A. 2020. Understanding satisfaction essentials of e-learning in higher education: a multi-generational cohort perspective. *Heliyon*, 6(11): e05519.

Zubaidah, S. 2016. Keterampilan Abad Ke-21: Keterampilan yang Diajarkan Melalui Pembelajaran. *Seminar Nasional Pendidikan Biologi STKIP Persada Khatulistiwa Sintang*, pp. 1-17.

Zweig, J. & Stafford, E. (2016). Training for online teachers to support student success: themes from a survey administered to teachers in four online learning programs. *Journal of Online Learning Research*, 2(4): 399-418.

# ANNEXURE A: PERMISSION LETTER TO CONDUCT RESEARCH



**education**

Lefapha la Thuto la Bokone Bophirima  
Noord-Wes Onderwys Departement  
North West Education Department  
NORTH WEST PROVINCE

Teemane Building, 8 O.F. Tambo Street,  
Potchefstroom  
Private Bag X1256, Potchefstroom 2520  
Tel: (018) 299-8216 / Fax: 294-8234  
e-mail: bmonale@nwpg.gov.za  
Office Manager: Linda Nelson - Tel: (018) 299-8264  
e-mail: Lnelson@nwpg.gov.za

## OFFICE OF THE DISTRICT DIRECTOR Dr KENNETH KAUNDA DISTRICT

Enquiry: P Tyatya; 018 299 8264

Tel: (018) 299 8264 / e-mail : ptyatya@nwpg.gov.za

04 May 2022

To: North West University  
Faculty of Education

Attention: Anthea Priccilla Gaanakgomo

From: Mr. B. Monale  
District Director

### PERMISSION TO CONDUCT RESEARCH:

**RESEARCH TOPIC: "EXPLORING THE CHALLENGES AND OPPORTUNITIES OF IMPLEMENTING AN E-LEARNING ADMINISTRATIVE SYSTEM IN PUBLIC SCHOOLS".**

Reference is made to your emailed correspondence to the District Department of Education regarding the foregoing matter. The content is noted and accordingly, approval is hereby granted to you to conduct research under the topic "exploring the challenges and opportunities of implementing an e-learning administrative system in public schools".

Your research is intended to target public schools in Dr Kenneth Kaunda District. In this regard, take note that the research process must conform to the following provisions:

- That the onus to contact your target schools and to identify relevant persons for purposes of the research remains with you.
- That participation in the project will remain voluntary for its entire duration.
- That should the general functionality of schools should not be compromised by research itself, considering interviews will in instances be conducted with educators and administrators.
- That the outcomes of your research will be shared with the NW Department of Education, or its proxy, upon request.
- That the principle of confidentiality will be observed in its strictest terms in relation to information sourced from the research.
- That you take reasonable steps to comply with COVID 19 safety and preventative measures in the course of you undertaking the research project.

With our Best Wishes

Mr. B. Monale  
District Director: Dr. Kenneth Kaunda District

CC: Mr. M. Mogaki: Acting Sub - District Manager JB Marks  
Ms N. Seokolo: Acting Sub – District Manager Matlosana



"Towards Excellence in Education and Sport Development"

## ANNEXURE B: INTERVIEW CONSENT FORM

I \_\_\_\_\_ (Participant Code) volunteered to take part in a research project done by an NWU Business School MBA student. I understand that the purpose of the research is to gather data for a study titled "**Exploring the challenges of implementing an e-learning administrative system in public schools**" as part of completing the MBA Degree. Please take note that, the results will be published as a mini dissertation and a possible article, after completion of the study.

- I. This research is completely optional for me. I accept that I will not be compensated for my time. I may discontinue my involvement in the process at any moment without consequence. There will be no negative consequences to my decision to refuse or withdraw from the research.
- II. I anticipate that the majority of the questions I'll encounter will be intriguing and straightforward. If I am uncomfortable in any manner when answering a question, I have the option of declining to answer the question(s) and withdrawing my participation.
- III. There will be no human tissue, blood tests, or other activities that might cause me bodily, mental, or psychological harm as a result of my participation in this study.
- IV. My involvement entails answering questions from University Business School researchers in the form of semi-structured interviews. The interview might take anywhere from 30 to 40 minutes.
- V. I understand that the researcher will not use my identity in any reports based on the data collected from this study and that my anonymity as a participant will be protected. The use of records and data in the future will be governed by a uniform data usage policy that respects the privacy of people and institutions.
- VI. I've read and comprehended the explanation given to me. I have received satisfactory answers to all of my inquiries and willingly accepted to participate in this research project.
- VII. The researcher provided a copy of the consent form, indicating that the interview would take approximately 30 to 40 minutes.

• I accept  I do not accept:

• Are you an educator withing a public school: Yes?  or No:

\_\_\_\_\_  
Signature of participant:

\_\_\_\_\_  
Signature of Researcher

Date: \_\_\_\_\_

Date: \_\_\_\_\_

## **ANNEXURE C: INTERVIEW GUIDE**

### **Section A: What is your teaching experience, your highest qualification, and what administrative duties do you have as an educator?**

- Please indicate your years of experience and highest qualification.
- Please tell us what part of your work makes it difficult for you to attend to your administrative duties.
- Will the online administrative system improve the quality of administration in the classrooms

### **Section B: The benefits of an e-learning administrative system**

- Do you think an e-learning administrative system will be beneficial for you as an educator in a public school? How?
- If an e-learning administrative system is implemented, how will you benefit from it?

### **Section C: Challenges and Opportunities of an e-learning administrative system**

- What challenges do you foresee if you have to make use of an e-learning system?
- Will the opportunity of having an e-learning administrative system cover most of the administration quarterly and will it save time?

### **Section D: Implementation of an e-learning administrative system**

- Do you have computer skills in both software and hardware? What are those skills?
- If an e-learning administrative system is implemented, what will it mean for you as an educator?
- Will you take a course on an e-learning system? So, when such a system is implemented in a public school, will you know how it works?
- As an educator, do you believe that implementing of an e-learning administrative will improve productivity?

**Thank you for your time and for taking part in this study!**



**Section B: The benefits of an e-learning administrative system**

- Do you think an e-learning administrative system will be beneficial for you as an educator in a public school? How?

---

---

---

---

---

---

---

---

---

---

- If an e-learning administrative system is implemented, how will you benefit from it?

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

**Section C: Challenges and Opportunities of an e-learning administrative system**

- What challenges do you foresee if you have to make use of an e-learning system?

---

---

---

---

---

---

---

---

---

---

- Will the opportunity of having an e-learning administrative system cover most of the administration quarterly and will it save time?

---

---

---

---

---

---

---

---

---

---

## Section D: Implementation of an e-learning administrative system

Do you have computer skills in both software and hardware? What are those skills?

---

---

---

---

- If an e-learning administrative system is implemented, what will it mean for you as an educator?

---

---

---

---

---

- Will you take a course on an e-learning system? So, when such a system is implemented in a public school, you will know how it works?

---

---

---

---

---

- As an educator, do you believe that implementing of an e-learning administrative will improve productivity?

---

---

---

## ANNEXURE D: LANGUAGE EDITING CERTIFICATE

**TERESA KAPP**

Phone:  
+27 82 789 7878  
E-mail:  
tekapp@mweb.co.za  
info@teresakapp.com

This serves to certify that I duly edited:

**Exploring the challenges of implementing an e-learning administrative system  
in public schools**

**AP Gaanakgomo**



**orcid.org/0000-0003-2162-953X**

I am an accredited editor with the University of Johannesburg, University of Stellenbosch Business School, NWU, UP, UCT, and GIBS, and my clients include the United Nations Global Compact, Absa, FNB, Takealot, and various other universities and organisations in South Africa and Namibia.

**Please note that all editing is done in *Track Changes*, and I therefore have no control over what is accepted or rejected by the author. Furthermore, I have no control over text added at a later stage.**

Should there be any queries, please contact me on the number provided above.

A handwritten signature in black ink, appearing to read 'Teresa Kapp'.

**Teresa Kapp**

## ANNEXURE E: ETHICS CERTIFICATE



Private Bag X1290, Potchefstroom  
South Africa 2520

Tel: 018 299-1111/2222  
Fax: 018 299-4910  
Web: <http://www.nwu.ac.za>

Senate Committee for Research Ethics  
Tel: 018 299-4849  
Email: [nkosinathi.machine@nwu.ac.za](mailto:nkosinathi.machine@nwu.ac.za)

27 June 2022

### ETHICS APPROVAL LETTER OF STUDY

Based on approval by the **Economic and Management Sciences Research Ethics Committee (EMS-REC)** on 24/06/2022, the Economic and Management Sciences Research Ethics Committee hereby **approves** your study as indicated below. This implies that the North-West University Senate Committee for Research Ethics (NWU-REC) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

<b>Study title:</b> Exploring the challenges of implementing an e-learning administrative system in public schools																															
<b>Study Leader/Supervisor (Principal Investigator)/Researcher:</b> Dr KN Ndlovu - MBA																															
<b>Student:</b> Gaanakgomo, AP (20812388)																															
<b>Ethics number:</b>	<table border="1"><tr><td>N</td><td>W</td><td>U</td><td>-</td><td>0</td><td>0</td><td>6</td><td>6</td><td>6</td><td>-</td><td>2</td><td>2</td><td>-</td><td>A</td><td>4</td></tr><tr><td colspan="3">Institution</td><td colspan="6">Study Number</td><td colspan="2">Year</td><td colspan="4">Status</td></tr></table> <p><small>Status: S = Submission; R = Re-Submission; P = Provisional Authorisation, A = Authorisation</small></p>	N	W	U	-	0	0	6	6	6	-	2	2	-	A	4	Institution			Study Number						Year		Status			
N	W	U	-	0	0	6	6	6	-	2	2	-	A	4																	
Institution			Study Number						Year		Status																				
<b>Application Type:</b>																															
<b>Commencement date:</b> 27/06/2022	<b>Risk:</b> <table border="1"><tr><td>Low</td></tr></table>	Low																													
Low																															
<b>Expiry date:</b> 27/06/2023																															
<b>Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.</b>																															

Special in process conditions of the research for approval (if applicable):

#### General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- The study leader/supervisor (principle investigator)/researcher must report in the prescribed format to the EMS-REC:
  - annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation will be provided, and upon completion of the study; and
  - without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.
- The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the EMS-REC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.
- Annually a number of studies may be randomly selected for an external audit.
- The date of approval indicates the first date that the study may be started.  
In the interest of ethical responsibility, the NWU-SCRE and EMS-REC reserves the right to:
  - request access to any information or data at any time during the course or after completion of the study.

- to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;
- withdraw or postpone approval if:
  - any unethical principles or practices of the study are revealed or suspected;
  - it becomes apparent that any relevant information was withheld from the EMS-REC or that information has been false or misrepresented;
  - submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and / or
  - new institutional rules, national legislation or international conventions deem it necessary.
- Please note that the ethics approval of this application is subject to the Covid-19 protocols.

The EMS-REC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the EMS-REC or the NWU-SCRE for any further enquiries or requests for assistance.

Yours sincerely,

**Mark  
Rathbone**

Digitally signed by Mark Rathbone  
DN: cn=Mark Rathbone, o=North-  
West University, ou=Business  
Management,  
email=mark.rathbone@nwu.ac.za,  
c=ZA  
Date: 2022.06.28 13:33:28 +0200

**Prof Mark Rathbone**  
**Chairperson: NWU Economic and Management Sciences Research Ethics Committee**