INVESTIGATING THE PERCEPTIONS OF TEACHERS' PREPAREDNESS TO TEACH THROUGH E-LEARNING DURING THE COVID-19 PANDEMIC LOCKDOWN: A CASE STUDY OF A PRIMARY SCHOOL IN THE KHOMAS REGION

A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION (EDUCATIONAL TECHNOLOGY - 10MEET)

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APPROVAL PAGE

This research has been examined and is approved as meeting the required standards for partial fulfillment of the requirements of the degree of Master of Education (Education Technology)

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DECLARATION

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ABSTRACT

This research aimed to comprehend the preparedness of teachers to transfer their existing ICT skills to an e-learning teaching environment during the COVID-19 pandemic. The study investigated the main issues and challenges that teachers, HODs, and the principal faced during the COVID -19 pandemic, their sudden and unexpected transition from face-to-face to emergency remote education, and their main worries and concerns during this period of implementing e-learning, as well as their perceptions regarding the effectiveness of the teaching and learning process, using a semi-structured interview and clear questions.

The study also generated teachers' ideas for strengthening education in the event of future lockdowns and in the post-COVID-19 era, based on their experiences during the lockdown period. Teachers, HODs, and the principal were among the fifteen (15) participants in this study. The qualitative research was situated in a case study design. Audio-recorded interviews were transcribed and analyzed using inter-rater reliability analysis to discover labels, codes, and themes from semi-structured interviews. The valuable insights gained from this study illustrate how important it is for teachers' voices to be heard by the management and the Ministry of Education, Arts and Culture. It is therefore pivotal for the Ministry of Education, Arts, and Culture (MoEAC) to include e-learning implementation in their budgeting and steady implementation using a top-down approach.

Keywords: COVID-19; e-readiness; teachers' perception; teaching practices; teachers' preparedness; Emergency Remote Teaching (ERT); lockdown.

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Last but not least, I would want to express my gratitude to the principal, head of departments, and teachers of the chosen primary school, who provided me with a welcoming environment at the school, allowing me to gather data within the deadline.

DEDICATION

This thesis is dedicated to my grandmother Yaloa Muranda, who has been a source of

inspiration and support throughout my life.

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LIST OF ABBREVIATIONS/ACRONYMS

PPS   People's Primary School

MoEAC   Ministry of Education, Arts, and Culture

COVID-19   'CO' stands for corona, 'VI' for the virus, and 'D' for disease, 2019

ICT   Information and Communication Technology

NAMCOL   Namibia College of Open Learning

ICDL   International Certificate of Digital Literacy

ETSIP   Education and Training Sector Improvement Programme

NIED   National Institute for Development

TECH/NA!   Technology is Good

ERT   Emergency Remote Teaching

CPD   Continuous Professional Development

CHAPTER 1: INTRODUCTION

1.1 Introduction

The discussions of this chapter include the background of the study, the statement of the problem, the significance of the study, research questions, limitations of the study, and definition of concepts related to how prepared are teachers to transfer their current ICT skills to an e-learning teaching environment during the COVID-19 pandemic.

1.2 Background of the study

Due to the COVID-19 pandemic and the National lockdown as a result of the state of emergency, many Namibian schools were closed. As risk mitigation, the Ministry of Education, Arts, and Culture (MoEAC) was striving to implement e-learning as a solution for teaching and learning at a distance. The focus on e-learning highlighted existing inequalities in our schooling system, and the lack of infrastructure lead to major challenges in the implementation process. Jakobsone and Cakula (2015), substantiated that teacher preparedness for e-learning, which entails the mental or physical preparedness of a teacher for some e-learning action, is crucial to be addressed before the implementation of any e-learning initiative. This study was aimed at unpacking the challenges faced by teachers in being able to teach in an e-learning environment to meet the readiness expectations of the MoEAC.

1.3 Problem statement

The suspension of all face-to-face classes until further notice, by the MoEAC (2020), was necessary to mitigate the spread of COVID-19 within the school and community in Namibia and the Khomas region in particular. The intended implementation of e-learning during the COVID-19 pandemic by the MoEAC requires preparedness among teachers, learners, and institutions. These mandates from the MoEAC assume that the ICT in Education Policy has been implemented sufficiently. The MoEAC aimed at addressing the shortcomings of technological devices and the shortage of online learning content when encouraging e-learning implementation. However, consequently, it would have appeared that teachers were unable to respond to the mandate. The Teachers were not opposed to teaching online, however, they were very aware of the issues and limitations that would make it challenging (Boer et. al., 2021, Boer & Asino, 2022).

The purpose of this study was to investigate current teachers' technology use in their professional activities and measure their possible preparedness to implement e-learning teaching if mandated. This study aims to add value to future emergency response teaching and learning during any catastrophic event in Namibia and provide an understanding of teacher preparedness in the current e-learning implementation at the primary school level.

1.4 Research questions

The main question to be investigated in this study is: How prepared are teachers to transfer their current ICT skills to an e-learning teaching environment during the COVID-19 pandemic?

Sub-questions are as follows:

1.4.1 How did teachers facilitate e-learning during the COVID-19 pandemic?

1.4.2 What support did the teachers receive to implement e-learning at the school?

1.4.3 What are the technological readiness strategies in place at the selected primary school to implement e-learning teaching and learning amid the COVID-19 pandemic?

1.5 Significance of the study

The findings of this study might assist student teachers, teachers, Head of Departments, principals, MoEAC, and the National Institute for Educational Development (NIED) in ensuring that teachers receive training that can allow teachers to easily use e-learning environments.

1.6 Limitation of the study

The limitation of this study is its focus on one primary school only. This means that the findings of the study cannot be generalised to other primary schools in Namibia. The researcher selected this school because this school's infrastructure is representative of many primary schools in Namibia being at Tech/Na! Level 1 or 2.

1.7 Delimitation of the study

The researcher chose this particular primary school since it has an established ICT infrastructure and most of the teachers have completed ICDL training. Teachers have also begun using technology to plan their lessons.

1.8 Definition of terms

Table 1: Definition of terms

Terminology	Definition
COVID-19 pandemic	The Coronavirus, which is described as our time's worldwide health catastrophe and the greatest challenge we have faced, spreads mostly through droplets of saliva or nasal discharge when an infected individual coughs or sneezes (World Health Organization, 2021).
E-Learning	Is defined as training offered via computer or other digital devices, allowing learners to learn anytime and wherever they wish (Aboagye et al., 2020).
Challenges	Are obstacles that must be overcome in order to achieve a goal in this research.
Teacher's technology readiness	Teachers' readiness to utilize technology in record keeping, lesson preparation, presentation, and

	information search on the internet utilizing ICTs (Farid, 2014).
Readiness	A state of preparedness, both internally (having skills and a positive attitude) and externally (having resources and administration's support).
Perception	Is defined as a process by which individuals organise and interpret their sensory impressions in order to give meaning to their environment (Mohanta, 2015).

1.9 Conclusion

The study was introduced in Chapter 1 with background information, an explanation of the problem, and research questions. The significance of the investigation, its limitations and delimitation, and the definition of key terminology relevant to the study were also presented in this chapter. The theoretical framework and relevant material are reviewed in the next chapter.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The literature review in this chapter focuses on various aspects of teacher preparedness to create eLearning, Emergency Remote Teaching, and identify the gap in Namibian literature. The literature presents teacher e-readiness, ICT training, eLearning concepts, challenges encountered by teachers and parents, and professional support received by teachers from school management and from the Ministry of Education, Arts and Culture during the Ff-19 pandemic. Moreover, this chapter also presents the theoretical framework which is the lens from which this study looks at the findings. In addition, the chapter reviews the literature on the preparedness of teachers to implement e-learning at a selected primary school during the COVID-19 pandemic. This chapter focuses on answering the following research questions:

- How did teachers facilitate e-learning during the COVID-19 pandemic?

- What support did the teachers receive to implement e-learning at the school?

- What are the technological readiness strategies in place at the selected primary school to implement e-learning teaching and learning amid the COVID-19 pandemic?

This chapter looked will at the literature on teacher e-readiness, ICT training, eLearning concepts, challenges faced by teachers and parents, and professional help received by teachers from school administration and the Ministry of Education, Arts, and Culture during the COVID-19 outbreak.

2.2 Theoretical Framework

This study is grounded in the Chapnick model (2000) for measuring an organization's e-learning readiness (So & Swatman, 2006). The Chapnick model was designed as an e-readiness model that uses the following categories: a) Can we do this?; b) If we can do this, how are we going to do this? and c) What are the outcomes and how can they be measured?
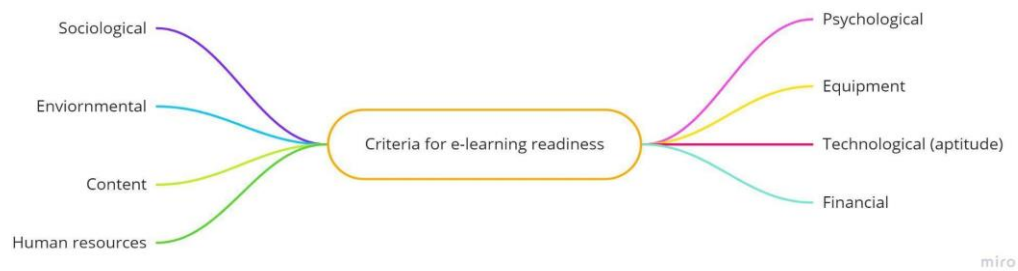
Figure 1: The Chapnick framework (2000) regarding factors of e-learning readiness

This model groups factors into eight categories:

1) **Psychological readiness** which considers the impact an individual's state of mind may have on the outcome of the e-learning strategy;

2) **Sociological readiness** considers the interpersonal environmental aspects in which the program is to be implemented;

3) **Environmental readiness** considers the operation of the large-scale forces of stakeholders inside and outside the organisation,

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4) **Human resource readiness** considers the supply and style of the human-support system;

5) **Financial readiness** factors in the consideration of the budget size and allocation process;

6) **Technological skill (aptitude) readiness** considers the observable and measurable technical competencies;

7) **Equipment readiness** considers the question if the organisation possesses the proper equipment;

8) **Content readiness** considers the subject matter and instruction goals.

This study intends to find out how teachers felt about their personal e-readiness to apply e-learning on short notice, as well as how they felt about the environmental and cultural context of needing to deploy e-learning during the initial COVID-19 pandemic lockdown in Namibia.

2.3 Emergency Response Teaching (ERT)

There is a distinction between a well-planned online learning curriculum and emergency remote teaching (ERT), according to Hodges et al. (2020), several educational institutions have begun to adopt remote online instruction as a result of the COVID-19 thread for safety considerations. This may give the impression that all teachers, even those who have been trained and supported, are unprepared. Despite data to the contrary, Hodges et al. (2020) claim that online learning is associated with

lower quality education. During times of acute emergency or lengthy instability, a collection of connected project activities allows organized learning to continue.

Because of the new coronavirus, the world has changed dramatically. Emergency remote teaching is one of the most significant worldwide developments that has resulted from the epidemic. While many individuals, including tutors and learners, claim to be engaged in online learning, this is not fully accurate. There is a significant distinction between emergency remote instruction and e-learning. Emergency remote teaching (ERT) is intended to be a brief break from traditional teaching methods. When instruction gets more remote, this occurs (or distant). This converts what would normally be face-to-face or hybrid instruction into digital education (Hodges et al., 2020).

Due to crisis/emergency conditions, ERT is a brief shift/response of instructional delivery to an alternate delivery modality. Any significant interruption to regular schooling or learning, such as floods, global conflict, epidemics, or natural disasters, anxiety is characterized by difficulties in sustaining sudden changes in modalities (fully online, web-enabled, blended); enhances poorer quality, and stress is characterized by problems in maintaining abrupt changes in modalities (Fully online, web-enabled, blended) (for teachers and learners - institution etcetera).

Emergency remote teaching, unlike online learning, is intended to be temporary. Both ERT and online learning, on the other hand, should be well-planned and well-executed before they begin. There are obstacles that come with going online to learn whether it is planned or because of an emergency. Online learning takes time, attention, effort, and creative problem-solving, and it is not something that can be accomplished

quickly. As a result, collaboration among school teachers, staff, parents, and learners is critical (Hodges et al., 2020).

2.4. Teacher preparation

Many factors can influence e-learning instruction, including teachers' opinions and attitudes about curricular change and e-learning (Ukachukwu, 2016). When asked about their preparation for e-learning, Siririka (2020) writes that teachers expressed a number of worries. Despite the fact that Kacelo (2019) found that teachers' trust in their use of Microsoft Office products and internet searches was satisfactory, they were unable to transfer those skills to the classroom through e-learning integration techniques. In their research, Fauzi and Khusuma (2020) discovered that teachers encounter challenges in the COVID-19 epidemic, including a lack of opportunity, network and internet use, learning planning, implementation, and assessment, and engagement with parents. Mailizar et al. (2020) discovered that the four components of issues faced by teachers throughout the COVID-19 era were teacher, school, curriculum, and learner. Teachers encountered challenges in distance education applied in the COVID-19 program, according to Rasmitadila et al. (2020), such as technological hurdles, student conditioning, student engagement in education, and online education experience.

However, according to Mdlongwa (2012), incorporating ICT into the school benefits teachers, parents, and learners significantly. Learners who have access to ICTs can develop the abilities they need to work in a constantly technologically dominated work environment, such as e-learning. Furthermore, incorporating e-learning into the school curriculum allows learners to become knowledge innovators in their own right, such

as by using internet search abilities to find and collect relevant information for school projects, and then producing a report, such as a PowerPoint presentation. Improved knowledge development is another advantage of using e-learning for learners. Other advantages of employing e-learning for learners include increased information management, communication, independent learning, cooperation, and teamwork skills, all of which are required in today's international teaching profession (Mdlongwa, 2012).

Preparedness to shift from face-to-face to online teaching and learning entails a prior understanding of how to use the internet and its related tools to create meaningful learning events, activities, and assessments. It is necessary to improve the ICT skills of teachers in both rural and urban schools. According to Boer (2012) although the Ministry of Education, Arts and Culture seeks to speed up the teachers' readiness or ICT literacy this progress is hindered by various factors and turns out to be an irregular implementation of e-learning in schools.

Teaching online with minimal or no experience without the essential assistance in such a short time period is likely to be difficult and full of possible blunders, making teachers and learners feel vulnerable and have a negative opinion of technology (Weller, 2020). This finding is in line with that of Alshammari (2013), who stated that if primary school teachers were not involved in the design, they would feel uncomfortable in their daily teaching. According to Hulme et al. (2010), teachers and other stakeholders were involved in all stages of creating and piloting the curricular materials, making them stronger and more dedicated to implementation.

In a study conducted by Buabeng-Andoh (2012) on factors that influence teachers' adoption and integration of ICTs, if teachers believe that technology programs do not meet their requirements or the needs of their learners, they are unlikely to incorporate technology into teaching and learning. When teachers were involved in the conception and development of the new curriculum, they were proven to have a positive impact on its implementation. This viewpoint is consistent with (Taba's, 1962) grassroots approach, which views teachers as individuals who are responsible for implementing the curriculum in the classroom, therefore their participation is crucial during the curriculum development process. Instructors' engagement in curriculum design, on the other hand, increases implementation, according to Huizinga et al. (2014), but teachers lack the knowledge and ability to construct the curriculum. Teachers have difficulties delivering teaching materials when they are not sufficiently involved in the early phases of curriculum preparation. However, according to Hennessy et al. (2010), many teachers are scared by technology and prefer to stick to their tried-and-true teaching methods. They go on to say that many people are first concerned about the perceived loss of authority in the classroom since learners, who are typically more competent at utilizing technology, can easily obtain material and dispute the teacher's status as the major source of knowledge. Despite some teachers receiving International Computer Driving License (ICDL) training, there is a vacuum in teacher Continuous Professional Development (CPD). According to Kacelo (2019), just a few teachers and not all staff members attended ICDL training at each school in Namibia. Despite the fact that teachers received Integrated Media and Technology Education (IMTE) training as part of their Bachelor's degree, the content is insufficient for e-learning integration.

2.5 ICT in Education Policy/ Disaster plan for teachers in Namibia

COVID-19 has forced education ministries all over the globe, including Namibia, to re-think, re-imagine, re-innovate, and re-design their educational systems to better suit the needs of all students and instructors. This plan was created expressly to help the education sector recover losses incurred during the 2020 academic year. The capacity to recover or bounce back from adverse events is characterized as resilience, and this plan was specifically developed to aid the education sector in recovering losses experienced during the 2020 school year (UNESCO, 2021).

The Resilience Plan does not replace the Basic Education curriculum; however, rationalized syllabuses have been developed with a focus on priority outcomes to assist teachers in addressing key skills and competencies in order to prevent learners from falling further behind and to set them up for future success. During the year 2020, the strategy aimed to address the inadequacies in teaching and learning outcomes.

The Namibian Ministry of Education issued an ICT policy for education in 2003, which is an update of the earlier policy produced in 1995 and amended in 2000, in line with Vision 2030 and Education and Training Sector Improvement Program (ETSIP) goals. The policy, which was developed by a mixed working group made up of representatives from both Ministries of Education, reflects recent developments in pedagogy, research, technology, and partnerships, and addresses a wide range of issues with its goal of increasing access to and use of ICTs across the education sector.

The priority areas for the policy are colleges of education and related in-service programmes; schools with secondary grades; teacher education programmes at tertiary

institutions; vocational training; primary schools; libraries and community centres; adult education centres; and special needs education. The policy objectives are to

• produce ICT literate citizens.

• produce people capable of working and participating in the new information and knowledge-based economy and society.

• leverage ICT to assist and facilitate learning for the benefit of all learners and teachers across the curriculum.

• improve the efficiency of educational administration and management at every level from the classroom, school library, through the school, and on to the sector as a whole.

• broaden access to quality educational services for learners at all levels of the education system and set specific criteria and targets to help classify and categorize the different development levels of using ICT in education.

In the field of ICTs in education, Namibia has been a trailblazer and visionary in Africa, serving as a model for numerous organizations and groups functioning across the continent. Through the active engagement of local youth and the leadership of SchoolNet/Namibia, Namibia provides new solutions for cheap and long-term access to ICTs. The Namibian government has taken the lead in dedicating a dedicated budget to promote ICTs in education and the creation of machinery for coordinated multi-stakeholder engagement, in addition to having a visionary national ICT for education strategy.

Namibia is ranked 78th out of 115 economies in the World Economic Forum's Global Information Technology Report, using the networked readiness index (NRI), which evaluates a country's ability to participate in and profit from ICT advances. Namibia is ahead of Uganda, Nigeria, Mali, Mozambique, and Zimbabwe in the rankings. (Republic of Namibia, 2007).

Specific strategies for providing ICT services, staff training, curriculum and performance measures, national technical standards, societal issues, open and distance learning, library, community sport and culture, public-private partnerships, education management, and financing are also included in the policy.

2.6 Tech/Na! Implementation plan (levels)

The Namibian Ministry of Education devised TECH/NA!, an acronym for "Technology is Good," to achieve its policy objectives. TECH/NA! is a comprehensive education implementation plan based on the ICT policy of the Ministry of Education (Republic of Namibia, 2005). Namibia's main education plan, the Education and Training Sector Improvement Plan, advocates for a multi-sectoral approach (ETSIP). One of the ten primary parts of this implementation plan was a comprehensive strategy for integrating ICT across the whole education sector, which included training and usage help. Its main objectives are to:

- invest in hardware, software, connection, curriculum, content, and technical support for educational institutions.

- educate administrators, employees, instructors, and students throughout the curriculum in ICT literacy and integration (Shafika, 2007; the Government Republic of Namibia, 2006).

- empower whole communities to close the digital gap and achieve Vision 2030's goals (Brannigan, n.d.).

As part of the implementation plan, TECN/NA identified priority areas as defined by the policy, as well as development levels for each area to provide institutions with descriptors for adopting ICTs.

Levels one through five differ in their emphasis on the following areas: classroom facilities, display facilities, internet connection, instructor ICT abilities, computer usage, application software usage (word processor), and contact with parents via ICT (email) (Republic of Namibia, 2005).

The Namibian Ministry of Education established TECH/NA! as a comprehensive implementation strategy based on its ICTs for Education policy. The major objectives of TECH/NA! are to

• equip educational institutions with hardware, software, connectivity, curriculum, content, and technical support.

• educate administrators, staff, teachers, and learners in ICT literacy and ICT integration across the entire curriculum. The ICT policy for education and implementation plan prioritise educational institutions in accordance with their proximity of learners to the labour market.

Teacher-training institutions are given the highest priority given their impact on the entire education system. Using these guidelines, the deployment of ICTs in the education sector is based on the following five priorities:

• Pre-service and in-service teacher education institutions;

• Schools with secondary grades (combined schools, junior and senior secondary schools);

• Vocational training centres and community skills development centres;

• National, regional, and community libraries and community and adult education;

• Primary schools.

2.7 Psychological readiness

Schools, administrators, educators, learners, and even parents have found themselves psychologically unprepared in the remote education process as a result of the COVID-19 pandemic. Schools have been driven into a flow of learning that is full of complexity and restrictions as they transition from face-to-face teaching methods to e-learning implementation. The school, teachers, and learners could have benefited the school community greatly if e-learning was mandated (Mailizar et al., 2020). Individuals have invariably encountered distinct difficulties and challenges in institutions during this process of e-learning implementation. School closures, a lack of equipment to engage in classes, being unable to access online materials from home,

and being unable to go home for an extended period of time have all had a psychological influence on both teachers and learners (Apriyanti, 2020).

The conflict in education which was brought about by implementing e-learning caused more challenges and teachers only have limited access to e-learning information, according to Farid (2014), only after schools begin to be psychologically supported, and only then can the implementation of e-learning occur. This can be done by purchasing the required e-learning devices that are needed to fully implement e-learning as well as maintaining courses where e-learning can be taught. Nevertheless, once a school's support systems are in place, instructors will be eager to use the available technologies, and some may even enroll in technology short courses to further their understanding of how to use them. Teachers' preparedness, perspectives, and attitudes, according to Tomás and Peková (2017), have a key impact on the implementation of e-learning at a school. Teachers should receive proper educational and professional preparation and support in order to implement curricular change effects such as e-learning in schools. According to Josua (2015), the extent to which teachers are capable of conducting classwork, homework, and assessments is also critical for the successful implementation of the new curriculum (e-learning). Teachers must be trained and prepared for the implementation of the new curriculum in order to acquire skills and knowledge, particularly in the area of e-learning.

2.8 Sociological readiness

Parents, as the child's first teacher, can help support the child's readiness for school. Studies commonly explore issues such as family participation (Puccioni, 2018), family education, and family factors that affect children's school preparedness. These findings

show that family education programs benefit children's academic achievement, and social and emotional development. Although there have been studies focused on parental activities for school readiness (Jose et al., 2020), more study is needed to uncover favorable habits that promote children's school readiness. The developmental support techniques supplied by parents to their children in order to prepare them for school are investigated in this study. In an internet education study, Ozüdoru and Ozüdoru (2017) reported that learners had social issues with internet connection during tests, difficulty to concentrate, not being adapted to alternative methods, and receiving no messages or mail for alerts that need to be explored in primary schools.

Families have a significant impact on their children's school readiness and acceptance of e-learning. The effectiveness of a child's surroundings is influenced by the family's socio-economic level. Working parents earn a higher pay and, as a result, can afford to live in better conditions and provide their children with technological devices. A supportive home environment, which can be fostered with better economic circumstances, has a significant impact on a child's primary school readiness (Britto, 2012).

All learners, parents, and teachers who do not have access to the internet or technological equipment must be given access in order to implement e-learning. According to Ngololo (2012), due to a lack of knowledge and weak leadership, the implementation of Tech/NA! development phases are delayed or terminated.

2.9 Environmental readiness

While it is important not to throw out the baby with the bathwater, African scholars

and policymakers must participate in substantive debates on vital success factors if e-learning is to thrive in the African context. Namibian policymakers have worked hard to make ICTs an integral teaching tool at all levels of education. The Namibian government's educational ICT policy strives to prepare students, instructors, and the general public for the modern economy. While the Namibian government adopted its ICT for education policy in 2005, Woyo et al. (2020) stated that research on higher education students' perspectives of e-learning is scarce. They discovered that the majority of Namibia's existing literature focuses on high schools, leaving a knowledge gap that has yet to be fully addressed by not unpacking the Junior Primary and Senior primary challenges..

Panuwatwanich and Stewart (2014) agreed that e-learning preparedness fosters collaborative learning environments and encourages learners to understand self-directed learning practices to aid learning with the support of both teachers and the community. Teachers favour e-learning teaching and learning over traditional teaching methodologies, according to a study by Schultz (2015), who discovered that the majority of teachers in public schools prefer to use online teaching and learning materials. He indicated that five variables boost the efficacy of e-learning implementation while researching e-learning readiness: infrastructure, communication, content, culture, and pedagogy. A school's infrastructure readiness, effective communication, the availability of online content, and the maintenance of a culture of creativity in learning and pedagogy are all important since they inform teachers on the best ways for the classroom. Moreover, he encouraged that unless the factors are resolved in schools, e-learning implementation will be hindered by them.

Traditional training is more valuable when any of these is likely to be limited. Because of the novelty and uniqueness of e-learning, it is critical to be prepared to identify and monitor any weaknesses or strengths that a school may have (Hung et al, 2010). Teachers in schools must consequently make use of e-learning readiness tools and methods to aid the teaching and learning process.

According to Morley (2010), in order to make the transition to become an online teacher, academics must do more than just master new ICT skills and understand how students learn best. E-learning preparedness, according to Schweighofer and Ebner (2015), may make learning more inventive and joyful while still being appropriate for mainstream classes. They stated that general rules must be followed by specialists to ensure the proper deployment of e-learning.

2.10 Human Resource Readiness

Despite their incapacity to alleviate the detrimental effects of COVID-19 in schools, the MoEAC is entrusted with the power to make reforms in Namibian schools. During the pandemic, they were intended to offer extra staff to help teachers, HODs, and the principal control the epidemic's impact on the school. Inherent lack of support by the MoEAC for ICTs and computers in general, resistance to change by some policymakers, and a lack of awareness of the benefits of ICTs in teaching and learning, among other issues, impeded the cascading of ICTs to teachers, according to Musarurwa (2011).

Teachers' unwillingness to change, their negative self-confidence toward technology, limited time, and insufficient e-learning knowledge and skills when integrating

technology into teaching and learning are all reported in a journal by Mulhim (2014) as common factors causing low use of ICTs by teachers in their classroom practices. He also recommended instructors to change their negative attitudes and embrace innovative teaching and learning methodologies. Teachers should refrain from using outdated teaching modalities and apply newer ones (Mulhim, 2014). Furthermore, while trainings like ICDL helped teachers improve their ICT skills and knowledge, factors like training timing and modes, follow-up support, teachers' beliefs, school culture, human resources support, workload, and motivation negatively impacted the effectiveness of e-learning implementation, according to Abuhmaid's (2011) study.

Moreover, administrators have a significant impact on the development, implementation, and sustainability of e-enabled teacher education. Institutional leaders must understand and believe in the benefits of ICTs in order to support the entire process. In order to effectively integrate ICTs into teaching and learning in a college, administrators' willpower is critical. It is the responsibility of principals of teacher training institutions to ensure that an ICTs policy is enacted that specifies how the institutions intend to use and implement ICTs in teaching and learning in their individual institutions. Use of websites, online interactions, integrating or not combining classroom teaching with online modules, and other activities that could lead to misuse of the Internet and computers are all issues that can be addressed by regulation (Engida, 2011).

2.11 Financial Readiness

This challenge entails the difficulty faced by teachers, HODs, the principal, and the school community caused by financial constraints. According to Nandi et al. (2012),

the school's transparent financial management skills encourage teachers to perform well at work. Teachers' contributions to tackling school financial difficulties should not be overlooked. Parents, teachers, and learners are all vital tools in the implementation of an e-learning curriculum, according to Bediako (2019). Bediako (2019) went on to say that parents must be financially prepared, in order for them to comprehend the new curriculum's content, and fit it with their children's requirements in the school. It is critical for the government to provide for all citizens so that they can sustain their children.

The Republic of Namibia's administration has made tremendous efforts through the TECH/NA! Implementation plan. Phase 1 of the Namibian ICTs in Education Initiative is expected to cost around N$209,903,000 (roughly US$30.8 million) over the next three years since 2005. ICTs are continually changing, evolving, and improving by their very nature. Aside from the creation of new technologies, the cost foundation of all ICTs is still under pressure, but at extremely uneven and irregular rates. Given these considerations, the above cost estimate for Phase 1 is only a snapshot in time. It takes into account the scalable solutions that are currently available in Namibia.

It further stipulates that the initiative's costs have been estimated from a Total Cost of Ownership (TCO) standpoint. It aims to calculate the total cost of owning and operating any ICT by factoring in costs such as physical facility upgrades, capital costs, recurring costs (such as electricity and peripherals), replacement costs for older technologies, software, and training costs, consumables costs, and spare part costs. It calculates the annual cost of toner and paper for each printer purchased, as well as the

cost of replacing bulbs for each digital projector. The Total Cost of Ownership (TCO) tries to capture all direct and indirect costs associated with ICT implementation in educational institutions in this way (Ministry of Education, Arts, and Culture, 2006).

Countless local and international partners have contributed both technical and financial support to our initiative. Support may be offered for specific types of educational institutions in some cases. Other assistance is aimed at wide National Initiatives. Despite the efforts of all partners, there is still a financing gap. Nonetheless, the Government of Namibia, the Ministry of Education, and other private and public sector partners have pledged to support and implement this initiative (Ministry of Education, 2006)

A study conducted by Ilonga et al. (2020) among Namibian students, revealed that to overcome the disadvantages of sluggish loading pages, students are required to invest in faster internet devices and data. Despite parents' best efforts to provide decent devices for their children, it has been demonstrated that children learn despite their parents' financial difficulties. Working parents, on the other hand, are more likely to leave their children alone, which can result in a worse quality of learning or even harmful behavior such as the misuse of technological equipment. The situation necessitates a strong parent-school relationship as well as consistent and supportive parental education, which has never been a requirement in the current educational system (Williams & Sánchez, 2013). In the absence of literature that encourages the Ministry of Education, Arts, and Culture to financially support school in times of difficulties.

2.12 Technological Skill (aptitude) readiness

Technological skills are the most prominent preparation that teachers must have in order to support e-learning implementation in the classroom. This problem is solved by providing training that improves the academic application of e-learning. According to Allan and Lawless's (2012) study, giving teacher's skills help them teach more successfully. Teachers will not be able to facilitate e-learning in schools unless they are given technical training on how to implement it. Learning instruction should be more personalized, and online content should differ from person to person and school to school. In addition to making teaching and learning more adaptive and exciting, Farid (2014) points out that excellent teacher e-learning readiness allows schools to increase academic achievement by reacting to students' educational requirements by making learning materials available and improving technological skills of teachers. The discussion is not about whether or not teachers should incorporate technology skills into their current teaching methods; rather, it's about how they can use technology to transform their teaching and generate new learning opportunities (Engida, 2011).

The technological skills challenge causes problems that arise as a result of a shortage of technology devices and a lack of professional training. This is a complex task, especially when old and new apps are combined to help students enhance their academic performance (Nielsen et al., 2011). Despite attempts by Namibian academics to lobby for changes in educational practices of technological skills improvement in teachers, little progress has been made in the deployment of e-learning. Instructors' participation in curriculum design, on the other hand, enhances implementation,

according to Huizinga et al. (2014), but teachers lack the knowledge and abilities to build the curriculum. Teachers have difficulty delivering when they are not fully involved in the early stages of curriculum preparation.

According to Gerick et al. (2017), e-learning practice in schools can only be achieved via the efforts of teachers and existing infrastructures. Teacher readiness and practices, as well as the growth of their technology skills, are crucial aspects of e-learning implementation. Despite the fact that Namibia's ICT infrastructure is among the best in Southern Africa, teachers' utilization of current ICTs is declining. Namibia's fourth National Development Plan document reflects this (NDP4, 2012-2017). Teachers are at the heart of e-learning deployment, and their contributions are critical to the success of e-learning in the event of a pandemic like COVID-19 or any other disaster. As a result, extensive training of instructors' technological skills should be taken seriously prior to deployment.

2.13 Equipment readiness /Infrastructure readiness

Namibian schools should be at least at ICT development level 2 according to the Tech/Na! implementation plan. This means that every school should have at least one computer lab, a few projects, multimedia resources, and a connection to the internet. Furthermore, all teachers should have completed ICT literacy training such as the ICDL or Foundation level ICT literacy, and at least once a week, ICT instruction for students should be organized at the school.

Additionally, "external funds were supplied for the manager to assist with the process throughout the early stages of the Tech/Na! deployment." The manager's position was

expected to be included into the Ministry's organizational structure, but this did not materialize, and the absence of ICT deployment in schools may have been a major contributor to the leadership issue. Teachers would be able to access a database of e-content lesson plans if more capacity was built. Namibia College of Open Learning (NAMCOL) developed content in notes master, an open-access learning management system, as an example of a personal initiative in this approach (LMS). NAMCOL is a state-owned educational institution that provides learning opportunities for adults and out-of-school children. It was logical to suppose that Namibia's Notesmaster program, which was awarded one of the winners of the United Nations World Summit Awards 2015, would play a role in the pandemic education system. As a result, the Ministry anticipates teachers recommending NotesMasters for the transmission of e-learning materials during the first pandemic lockdown, which took place in March 2020. However, due to other issues, such as the curriculum not being updated to the newly adopted curriculum, this did not happen."

There is a global educational trend aimed at ensuring that each country's workforce is ICT-skilled in order for that country to achieve international standards. Due to a lack of equipment, the inability to participate in internet-related training, the inability to access online materials from home, and the incapacity to leave home for a prolonged period of time (Apriyanti, 2020). Another factor to consider is the lack of adequate technical infrastructure in educational institutions. Such problems obstruct the educational program's success. He also examined the disconnect between government policy and school-level implementation, which obstructs e-learning implementation. Today's educational system aspires to make outstanding use of ICT in the classroom

by overhauling school infrastructure and encouraging excellent e-learning practices (Careemdeen & Nonis, 2015).

2.14 Conclusion

The theoretical framework, e-learning implementation, Emergency Response Teaching (ERT), teacher perspectives on curriculum implementation, and best practices for e-learning implementation at the selected primary school were reviewed in this chapter. The evaluated literature was important to the current study since it aided in the formulation of study objectives and data collection instruments that were precisely targeted at the research issues. Finally, it discussed some of the study's significant research findings. The research methodology used in this study will be discussed in the following chapter.

CHAPTER 3: METHODOLOGY

3.1 Introduction

The methodological technique utilized to collect data on how prepared teachers are to transfer their current ICT skills to an e-learning teaching environment during the COVID-19 pandemic is presented in this chapter. The research design, research methodology, study design, population and sampling, and data collecting techniques and equipment are all covered in this chapter.

3.2 Research design

The aim of this study was to investigate teachers' readiness to transfer their existing ICT skills to an e-learning teaching environment during the COVID-19 pandemic. A qualitative single case study was chosen to answer the research questions. The researcher employed a single case study research design. The qualitative methodology aims to get a deeper understanding of the aspects of teachers' readiness to teach online. Yin (2009) explained a single case study as an approach to a phenomenon under study when it is not readily well known from its context. It was ideal to employ a single case study methodology since it provided for a "richer and more in-depth knowledge of a process or situation" (Lingard, 2016, p.1). Participants in a qualitative single case study research obtain data from the location where the topic under investigation is faced (Cresswell, 2014). As a result, the researcher was able to listen and comprehend how participants were dealing with the phenomena of teachers' readiness to transfer their existing ICT skills to an e-learning teaching environment during the COVID-19 pandemic by employing a case study. The researcher was able to better grasp factors

by employing a qualitative study design. Because the researcher was looking into instructors' readiness to use e-learning if forced by the Ministry of Education, Arts, and Culture, this study was based more on the Chapnick (2000) framework.

3.3 Population

According to Matthews and Ross (2010), population refers to the total number of cases that might be included in a study. The target population for this study includes all teachers, HODs, and the principal of the selected primary school in the Khomas region.

3.4 Sample and sampling

The qualitative data collection consisted of fifteen (15) participants from the selected school, consisting of six (6) management staff and nine (9) teachers. The researcher involved teachers as participants in this study based on their roles in education as implementers of e-learning in the school, thus a purposive sampling method was applied. Purposive sampling was utilised by the researcher to choose the location and people who would be involved in the study. This is a single case study, the researcher chose fifteen (15) participants. It was impossible for a single case study researcher to contact all of the school's staff. All participants that took part in this study have been teaching for more than two years and they possess Diplomas and Bachelor's degrees in education. Moreover, the researcher involved HODs and the principal in the study for their role in the implementation of e-learning in classrooms at the selected primary school.

3.5 Research instruments

Data was collected through semi-structured interviews in this study. Interviews were conducted in a semi-structured manner. A semi-structured interview as a tool to probe, follow up and explain questions, views, and experiences of people (Johnson & Christensen, 2012). The researcher employed a one-on-one semi-structured interview using a predetermined set of questions. During the COVID-19 pandemic, the researcher was able to get in-depth information from the participants regarding how prepared they were to transfer their present ICT competencies to an e-learning teaching environment through face-to-face interviews. Moreover, interviews explored deeper and gave the researcher an opportunity to probe the participants' responses. The aim was to gather more quality and thoroughly detailed information about how prepared were teachers to transfer their current ICT skills to an e-learning teaching environment during the COVID-19 pandemic

3.6 Procedure

Selected participants (teaching staff, HODs, and the principal) were approached as to their willingness to participate in the semi-structured interviews and be willing for the interview to be audio recorded. Interviews were audio-recorded with additional field notes taken. The researcher received ethical approval from the University of Namibia Ethics Committee as well as a letter of permission from the Director of Education, Arts, and Culture to do research in a government school. The school principal, HODs, and teachers were all scheduled for meetings. The researcher went on to discuss the study's goal as well as the methodologies that will be used. The researcher reiterated

that he will capture the interviews with an audio recorder. The participants were informed about all of the data gathering processes.

3.7 Data analysis

The semi-structured audio-recorded interviews were transcribed. Inter-rater reliability (the degree to which two or more people agree is regarded as interrater reliability.) analysis was applied to identify labels, codes, and themes. To answer the research questions, the themes were analyzed, and direct statements from participants were used to support the pertinent topics. Among the topics highlighted were teacher preparedness, management support, school culture, infrastructure, and student and parent preparedness. Although terminology varies across the literature, the terms credibility, trustworthiness, integrity, and truth-value all have comparable definitions that show the legitimacy of the methodology and findings. The terms reliability and validity are used in this study to examine and evaluate factual analysis. It is critical for readers to recognize that methodologists may define and interpret these terms differ depending on their research paradigm. Furthermore, the researcher must be trustworthy. A researcher's qualifications, experiences, opinions, and assumptions should all be documented.

3.8 Research ethics

Conducting research in a way that does not hurt participants in any way, including psychological harm, maintaining anonymity, being honest, and ensuring that data obtained was preserved are all examples of ethical concerns (Matthews & Ross, 2010). After University's ethical clearance approval, the Ministry approval was sought at the

Executive Director Level, Regional Director Level, and principal level. The researcher obtained consent from participants after explaining the purpose of this study. Participation was voluntary and participants could withdraw from the study at any time. Anonymity and confidentiality were preserved as the researcher will not disclose any of the participants' identifiable data and they were anonymous when reporting on the research findings. To keep the study's distinctiveness, the researcher used pseudonyms such as T1 (participant 1) to T15 (participant 15). The participants were not exposed to unnecessary or disproportionate levels of risk. The data will be kept secure in a password-protected folder on the researcher's computer and deleted after 3 years or after the successful completion of the study.

3.9 Conclusion

The methods utilised to collect data for this investigation were discussed in this chapter. The researcher began by outlining the study methodology, sample description, and research tools. The data collection processes, data analysis, and ethical issues were all explained after that.

CHAPTER 4: PRESENTATION OF FINDINGS

4.1 Introduction

The researcher offers an analysis of the data and explains the study findings in this chapter. To clarify the significance of the obtained data, the data was analysed and debated. Data from semi-structured interviews: interviews were conducted to learn more about how prepared teachers were to transfer their current ICT skills to an e-learning teaching environment during the COVID-19 pandemic. Some of the key points that were addressed and analyzed throughout the interview are included below. The main question to be investigated in this study was: How prepared are teachers to transfer their current ICT skills to an e-learning teaching environment during the COVID-19 pandemic?

- How did teachers facilitate e-learning during the COVID-19 pandemic?

- What support did the teachers receive to implement e-learning at the school?

- What are the technological readiness strategies in place at the selected primary school to implement e-learning teaching and learning amid the COVID-19 pandemic?

4.2 Participants' biographical details

Table 2: a summary of participants' biological details

Participants	Occupation	Gender	Age
T1	Teacher	Female	34

T2	Teacher	Female	25
T3	Teacher	Female	23
T4	HOD	Female	58
T5	Principal	Male	46
T6	Teacher	Male	46
T7	Teacher	Male	39
T8	Teacher	Female	59
T9	Teacher	Female	28
T10	HOD	Female	36
T11	Teacher	Male	33
T12	Teacher	Female	36
T13	Teacher	Female	43
T14	HOD	Female	47
T15	Teacher	Female	25

This study had a total of fifteen (15) participants, four of whom were members of the school management (HODs and the principal) and the rest were teachers. T1 to T15 was assigned to each participant. There were five men and ten women among the fifteen (15) participants. The participants' ages ranged from 24 to 57 years old. All of the participants had professional teaching credentials, such as a diploma or a bachelor's degree in education, and had worked in a government school for at least four years. They are responsible for various teaching and learning functions such as teaching, assessment, evaluating, and controlling the learning process at school.

4.3 Matching semi-structured interview questions to research questions

A series of questions were asked to clarify the replies of the teachers to the semi-

structured interview questions. The interview questions which are linked to the appropriate research question are shown in Table 1 below.

Table 3: Semi-structured interview questions linked to research questions

Research questions	Interview protocol
Research Question 1	Q 1, 4, 6
Research Question 2	Q 2, 3, 5
Research Question 3	Q 7, 8, 9

4.4 Research question 1:

How did teachers facilitate e-learning during the COVID-19 pandemic?

Definition of e-learning: The data analysis shows that teachers did not have a clear understanding of what e-learning was. When asked what comes to mind when one talks about e-learning, most of the teachers indicated that it is teaching and learning with technology.

"Learning using technology that is availed in the classroom" [T1, Q1]

"refers to digital teaching and learning instead of the blackboard technique"

"*(I) Define it as using digital tools to help learners learn, e.g. Zoom Meeting*"
[T9, Q1]

Participants also showed their specific attitude towards e-learning by highlighting the digital divide in encouraging e-learning in grades 0-12.

"Remind him of segregation "apartheid" (the haves and not haves) poor and rich division in education, e-learning is only given to the haves while the lack utilise chalk, textbook, and chalkboard."[T7, Q1]. In addition, *"As far as I am concerned, teachers were not involved,"* T10 said, *"rather, they have involved presumably teachers from other schools to make decisions about the future of the teachers in the region."*

The major observation in the participant's responses was the fact that all teachers simply tried to define e-Learning in terms of a short description of technology being used for teaching and learning and not sharing the intense process of how to create content, how to plan eLearning courses and the facilitation process. One can infer that teachers were uncomfortable implementing e-Learning, creating content, etcetera because of not fully grasping the process of e-learning creation.

Choice of learning during the pandemic:

During the pandemic, very few teachers used any digital platform to continue their teaching and learning efforts. The majority of teachers felt comfortable in creating a printed booklet, scanned materials in and worksheets that were to be picked up by

parents to give to their children.

"Scanned documents, made copies, and used MoEAC handouts to (parents)" [T1, Q4]

"I used the set of activities (worksheets) that were collected by parents and the majority of work did not reflect the work of learners because parents did the work." [T8, Q4]

"...Manual printed materials, worksheets, and booklets from the ministry." [T4, Q4]

"Was not prepared to teach during the pandemic but managed to use copies/print materials to keep learners busy." [T15, Q4]

Participants shared the frustrations of not being able to use online learning, eLearning, and other digital devices. Participants stated that there is a lack of mobile data (personal phone) and WiFi at school and home, and considered the access and resources of parents and the community. They also question the resources, infrastructure, and technology facilities at primary schools.

"Did not use e-learning because parents do not have devices that is why print materials were relied on." [T14, Q4]

"Difficult time ever experienced, e-learning did not take place, improvised to ensure that teaching and learning continue by using booklets systems." [T5, Q4]

"Believes no online related learning for all primary schools in Namibia ..., she used normal print materials." [T12, Q4]

A few participants indicated that they were ICT literate, however, highlighted the concerns about training resources and support. They indicated that they ended up using social media platforms such as WhatsApp and Telegram to communicate with the parents.

"Booklets strategy to continue teaching and learning utilised Whatsapp and Telegram for communication with parents, and learners." [T3, Q4]

"Was 100% prepared because he received (ICDL) ICT-related training." [T6, Q4]

"Used booklets to continue teaching and learning but blames the Ministry for the failure of improving teachers' ICT skills. Request CPD to include e-learning training for all teachers in Namibia." [T7, Q4]

"ICT literate managed to come up with activities that were shared on WhatsApp and Telegram groups to parents and learners." [T9, Q4]

"Shared work via WhatsApp groups to parents which were typed." [T10, Q4]

"... Used WhatsApp as a communication tool." [T11, Q4]

Additionally, many participants acknowledge that their choices of teaching and learning materials in the form of booklets were ineffective as parents ended up doing the homework exercises.

"I used the set of activities (worksheets) that were collected by parents and the majority of work did not reflect the work of learners because parents did the work." [T8, Q4]

"Rates the effectiveness of teaching and learning at 40% because work did not reach more parents." [T11, Q4]

Summary of research question 1

Finding show that the majority of teachers do not understand what e-Learning entails and indicate a lack of processes, content creation, and facilitation. During the pandemic, the majority of teachers focused on developing printed materials, worksheets, and booklets. A few teachers indicated that they have good ICT literacy skills and were prepared to attempt e-learning, but soon realized that resources were a challenge and that the parents and learners had connectivity and access issues.

4.5 Research question 2:

What support did the teachers receive to implement e-learning at the school?

When asked about their level of preparedness during the COVID-19 pandemic, participants indicated the following (see pie chart) below:
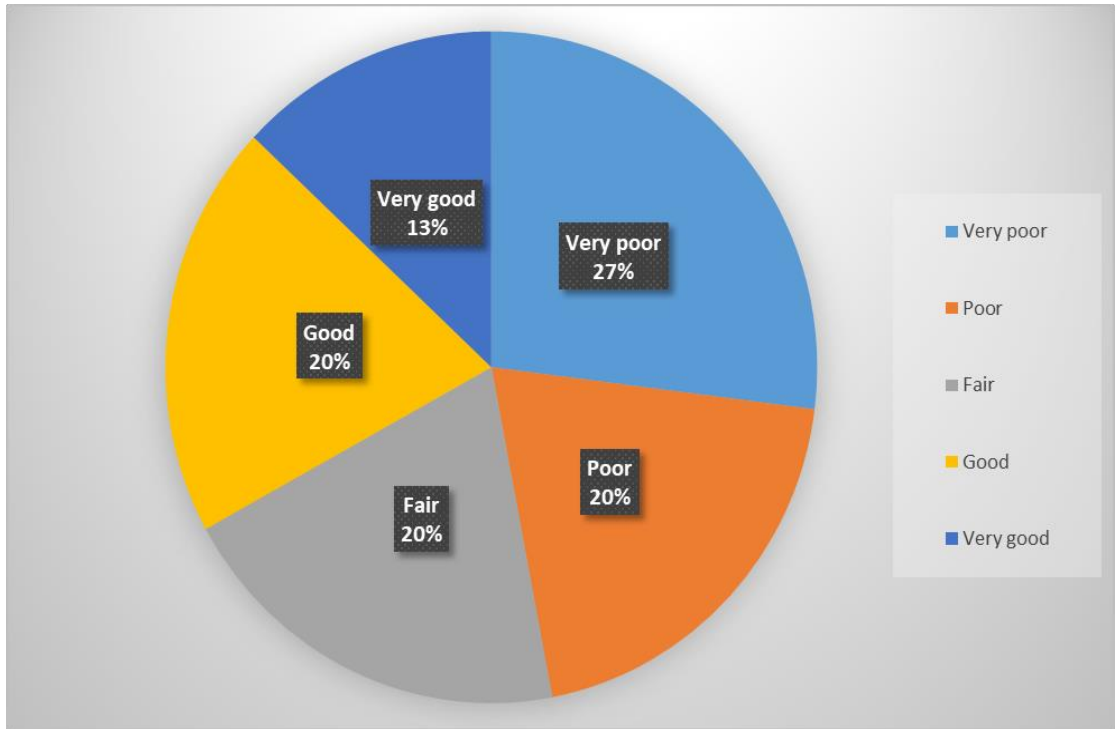
Figure 2: A pie chart indicating the percentages of teachers' preparedness

The graph above demonstrates that some participants, including teachers, HODs, and the principal, were enthusiastic about the implementation of e-learning despite the challenges they might face, while others were concerned about the paradigm change and some were open to embracing the changes. The participants expressed various responses varying from less prepared to well prepared to implement e-learning at the selected school.

a) Very poor: not prepared

All participants at the selected primary school were interviewed to establish their readiness to implement e-learning at the school, according to the data gathered. According to the data, 27% of the participants were not prepared to teach during the pandemic using e-learning. That is to say, when it comes to employing internet

resources to teach and study, teachers were unprepared and had low morale. They believe they lack the technical abilities needed to use e-learning, and that technology equipment is only for the young. Additionally, they believe that the emergence of electronics is limited to private schools and privileged public schools that were favoured by the colonial education system before Namibia's independence.

b) Poor: slightly prepared

In terms of e-learning implementation, this level of preparation had the second-largest percentage of teachers (20%). That indicates that 20% of the teachers believe that e-learning is a difficult field and they lack the know-how of using ICT as a teaching and learning tool. At this level, teachers are well equipped with the traditional teaching methods. In addition, the teachers mentioned the shortcomings such as the lack of in-service training for them to boost their abilities to use technological devices. Likewise, these teachers have pedagogical teaching skills but have some difficulties in incorporating e-learning into the teaching and learning process.

c) Fair: moderate preparedness

In addition to the above-mentioned degrees of preparedness among instructors, twenty (20%) percent of teachers, HODs, and the principal confirmed that their level of preparedness is in the center as a fair ability. That is to say, they have reservations about their ICT abilities and have described their apprehension of new technologies as "complex" for their age group. They also stated that they are only proficient in Microsoft Office (Word, PowerPoint, and Excel) and that using the internet and

creating online activities for learners is a huge challenge for them. This is the intermediate preparedness level

d) Good: steady prepared

The percentage of participants at the selected elementary school who were ready for e-learning was twenty (20%). That indicates that 20% of the participants have the ability to use technology in the classroom to facilitate learning and teaching. They are comfortable with technology devices and find e-learning in the classroom to be quite simple. Furthermore, the teachers, HODs, and the principal considered the impact of the lack of improved field training for teachers prior to the Ministry's request to introduce e-learning at the school. Also, participants at this level have more than the bare minimum of knowledge to be able to use ICT in education.

e) Very good: well prepared

According to the data obtained, twenty-seven percent (27%) of the teachers at People's Primary School who were involved in the introduction of e-learning at the school said they were ready for it if it was compulsory. This indicates that, despite the school's obstacles, the majority of teachers possess excellent ICT skills and are prepared to employ e-learning throughout the COVID-19 pandemic. Furthermore, participants at this level stated that they used e-learning before the pandemic in normal times. These participants believe they have the skills and knowledge required to implement targeted e-learning at their school. If advanced training is provided, they will be able to set up activities online.

E-learning experience: When asked whether teachers had any e-learning experience, participants indicated that they had no experience.

> *"Have not experienced any e-learning during teaching and learning at the selected school and fellow teachers do not use it either. [T15, Q2]*

Attempted Digital Tools: Many teachers try various digital tools (WhatsApp, Telegram and Zoom) for "online" teaching and learning. Teachers reported that they are not given opportunities to really explore online learning.

> *"...tried using WhatsApp groups as a communication tool, and sent activities to parents through word documents." [T9, Q2]*

> *"Good skills in ICT and related fields with fair e-learning operating abilities but not given an opportunity to prove e-learning." [T2, Q2]*

No ICT training to attempt e-learning: The majority of teachers noted that they did not receive the appropriate ICT training to create e-Learning content, and facilitate and support learners online.

> *"No online or related training." [T4, Q5]*

> *"Beginner in the field of computers, although I know how to use basic functions, the internet remains a challenge." [T7, Q4]*

> *(between beginner and medium) not dealt with on a daily basis, accessibility minor challenges." [T14, Q3]*

"On a scale of 1-5 (3) knows all basic functions of computers but not internet-related functions." [T15,Q4]

Reasonable ICT literacy: Participants indicated that there is sufficient ICT literacy amongst teachers. Teachers can use Internet, YouTube to add to their knowledge and can use Microsoft to represent their ideas.

"... ICT related training received, visits YouTube for computer-related applications and their uses." [T9, Q5]"

"Believes 85% of teachers are ICT literate." [T5, Q5]

ICDL Training: A few teachers mentioned that they received International Computer Driving License (ICDL) training albeit a while back. Receiving ICDL training indicated the Ministry of Education commitment to support teachers to receive ICT Literacy training. It is common knowledge that ICDL training does not deal with elearning content creation and teaching and learning facilitation. Kacelo, (2018), made note of the fact that ICDL is not the appropriate ICT literacy training choice for Namibia and many participants confuse the outdated training syllabus to have relevance to their situation, but then realises it does not support the activities of ICT integration.

"Have attended ICDL training which was offered as a CPD for teachers years back." [T6, Q5]

"Received ICDL training which was sponsored by the MoEAC" [T11, Q5]

Some participants indicated that despite not having tertiary knowledge on the

integration of e-learning in a classroom setting during their teacher training in Colleges and universities, they have taken extra efforts to learn e-learning during teaching and learning. Furthermore, teachers go the extra mile to strengthen their technical abilities so that they may use e-learning to improve their teaching and learning methods. Teachers also bring their own devices to school in order to incorporate technology into the teaching and learning process. Teachers mentioned obstacles such as a shortage of equipment in the classroom, such as projectors and smartboards.

Summary of question 2:

According to the data, the majority of teachers do not know how to apply e-learning and lack techniques, content creation, and facilitation. The bulk of teachers' preferences are the use of print material instead of e-learning; they believe it is complicated and does not apply to the school where they teach. A few teachers said they had high ICT literacy skills and were ready to try e-learning, but they quickly discovered that resources were limited and that parents and learners had challenges with connectivity to network Wi-Fi and data. This is probably due to traditional teaching strategies and a lack of leadership that support ICT integration on a long-term basis and not simply in a crisis situation only.

4.6 Research question 3:

> *What are the technological readiness strategies in place at the selected primary school to implement e-learning teaching and learning amid the COVID-19 pandemic?*

4.6.1 Challenges

In answering the question, it is important to address the challenges teachers identified. In so doing, one receives insight as to the areas that should receive attention in the future.

Challenge 1: Lack of cooperation between learner and parents

Teachers indicated that the working relationships between teachers and parents and teachers and learners were strained. Lack of communication and understanding of what responsibilities each party was to be engaged in was a problem.

> "*Teachers did their part while learners did not and the majority of learners' work was done by parents.*" *[T1, Q7]*

> "*Parents were not cooperative with directions from the teacher, excessive absenteeism of learners during and post strict lockdown.*" *[T9, Q7]*

> "*Booklets were done by parents, marking was hard, not all learners and their parents collected the work at school.*" *[T3, Q7]*

> "*Manuel printed worksheets were done by parents, the low turnout of parents.*" *[T4,Q7]*

Challenge 2: Lack of access and availability of digital tools

Participants reported the lack of technical equipment as a major challenge for both the school, teachers, and learners.

"No availability of gadgets, laptops, tablets, and smartphones, schools were not equipped with the 21st-century equipment which facilitates online learning." [T2,Q7]

"Challenges with resources, not enough laptops, MoEAC assisted here and there during lockdown but the assistance was not sufficient enough to successfully implement e-learning." [T5, Q7]

"MoEAC did not take learners and teachers into consideration during the pandemic, no internet, and devices." [T8, Q7]

"First internet access is a major problem, training teachers and learners on how to use e-learning, mentor learners of what is expected of them on the internet (what to share and what not to share)." [T10, Q7]

Challenge 3: Lack of learning design and materials development skills

Teachers noted that there was a clear deficit in their own skills of designing learning material where learners are to be self-regulated or designed in such a way to support the learning of the learner independently.

"Lack of ICT materials, print materials materialised, all technological devices should be availed to all public schools." [T6, Q7]

"Used to face-to-face learning and preferences thereto, poor credibility of print materials due to parents doing the work for learners, learning did not take place." [T7, Q7]

"*... first internet access is a major problem, training teachers and learners on how to use e-learning, mentor learners of what is expected of them on the internet (what to share and what not to share).*" [T10, Q7]

Challenge 4: Insufficient resources to implement directives during pandemic

Participants mentioned that the lack of many resources were simply hindrance to following the directives of the ministry.

"*Geographical location of the school, way older teachers with limited knowledge, negative view of technology, parents, and guardians have no source of income that makes them not to afford devices.*" [T11, Q7]

"*As far as technological implementation is concerned, material support is key and should be available, online learning equipment should be available both at home and school. Unavailability of devices hinders implementation.*" [T12, Q7]

"*learners have no technological devices.*" [T13, Q7]

Challenge 5: Shortage of paper and printing /insufficient funding for supplies

Participants said that a lack of paper and printing, as well as insufficient financing for supplies, impeded the implementation of the MoEAC directive.

"*Ministry did not provide types of equipment, teachers small salary can not cater for the provision of devices in schools.*"[T14, Q7]

"*Shortage of papers and toner at the school.*"[T15, Q7]

During the epidemic, the Ministry of Education, Arts, and Culture provided little to no support to speed up the adoption of e-learning: the majority of participants agree that the Ministry was not supportive of e-learning implementation at the selected primary school.

4.6.2 Strategies

When asked about strategies for reversing the situation or addressing the problems that they are facing, teachers had this to say.

Strategy 1: Employ more life skills teachers and temporary counselors

> "*Employ more than one life skills teacher or counselor. Current life skills teachers are not effective in solving school problems.*" *[T12, Q8].*

> "*Counselling, guidance, and motivation on how to deal with issues that may arise during crises*" *[T13, Q8].*

Strategy 2: Active parental involvement in school affairs

> "*Parents should be actively involved in school affairs. Work hand to hand (learners, parents, and teachers).*" *[T12, Q8].*

> "*...Parents should be actively involved in school affairs… they must provide help where they see a gap in times of crisis.*" *[T14, Q8]*

> "*Work hand to hand (learners, parents, and teachers).*"*[T1, Q8]*

Strategy 3: Encourage the use of innovative communication technologies

"...it is imperative to equip teachers on the use of emails to communicate and slowly get rid of the traditional ways of letters/newsletter. The school education system can change to new modalities." [T5, Q8]

"The Ministry of Education, Arts and Culture should provide technological resources sufficient to the specific school." [T14, Q8]

"Every child should have his/her own tablet-like in developed countries such as Finland, Germany, and the USA." [T8, Q8]

Strategy 4: Teachers should be involved in the decision-making process

"MoEAC should involve teachers in decision making, not only principals, inspectors, and directors. Because teachers are at the core of implementation. " [T13, Q8]

Strategy 5: Technology should be made available to teachers in the classroom

"Equip the school with ICT equipment that will facilitate the implementation of online learning. Encourage teachers to have vast experience." [T6, Q8]

Strategy 6: Address teachers', HODs', and principals' concerns about the use of technology in the classroom

"...for me, I have fear, I am afraid...yes, I had feared when the new curriculum such as e-learning is being introduced since I do not know what exactly will happen afterward." [T15, Q8]

"Ensure that the low skills in teachers are improved through consistent ICT training. Government should explore different strategies of training unskilled teachers, such as skilled teachers training their peers." [T15, Q8]

Strategy 7: Bring your own devices

"...to fasten the implementation of e-learning, teachers, and learners should bring their own devices." [T9, Q8]

Strategy 8: invest in e-learning Continuous Professional Development (CPD)

"Ministry funded CPD should not be about motivational speeches, it should focus on e-learning improvement for teachers." [T3, Q8]

4.6.3 Support

Advice to the Ministry of Education, Arts, and Culture on the following professional assistance for teachers and advice to school administration on developing e-learning teaching and learning training/support for instructors.

a) **Psychological support**

   i) **Advice to the Ministry of Education, Arts and Culture**

Teachers should be supported before, during, and after the epidemic by the MoEAC, which should focus on their psychological well-being. The Ministry should be supportive by coming up with innovative measures to alleviate all of the teachers' concerns. For smooth psychological assistance, the Ministry should work on the recommendation made by the school administration.

"The Ministry of Education, Arts and Culture should provide psychological support to teachers, not only ICT skills." [T6, Q9]

ii) Advice to the school management

The psychological support of teachers should always be considered by the school administration. The management should make a recommendation to the MoEAC regarding how teachers feel about e-learning deployment.

"*Management should talk to teachers to further their studies, motivate teachers that everything is possible and invite qualified trainers to inspire teachers.***"** [T1, Q9]

"*Encourage counseling sessions to affected learners and teachers.***"** [T12, Q9]

b) Sociological readiness

i) Advice to the Ministry of Education, Arts and Culture

For educational or academic purposes, the Ministry of Education, Arts, and Culture should subscribe to WhatsApp. Encourage contact between students, parents, and students.

"*Pull in the same direction with MoEAC, learners, parents, and the community.***"** [T13, Q9]

ii) Advice to the school management

The school administration must transform the culture of the school and continue to implement e-learning. To improve teacher competency, the school administration should encourage peer teachers and professional assistance.

> "*MoEAC should source ICT and computer teachers to train other teachers by helping them integrate tech and online learning and teaching in a traditional teaching style.*" [T15, Q9]

c) On the number of teachers & qualifications during crises

i) Advice to the Ministry of Education, Arts and Culture

The MoEAC should hire more qualified teachers and strive for a teacher-to-learner ratio of 1:35. Furthermore, they should only hire qualified teachers and eliminate unqualified teachers from schools. This would reduce the misuse of power by unqualified teachers while also increasing the number of jobs available for qualified teachers.

> "*Ministry through human resources should do regular checks on the credibility of teachers' qualifications and recommend those who need further studies*" [T11, Q9]

ii) Advice to the school management

All empty positions at school should be advertised by the school administration. Encourage all talented teachers to apply, suggest more innovative and honest applicants for positions, and avoid hiring families as teachers.

"... the teacher-learner ratio (1:35) should be adhered to at any cost" [T6, Q9]

d) On finances during crises

i) Advice to the Ministry of Education, Arts and Culture

The Ministry of Education, Arts, and Culture should disburse finances according to each school's needs. To improve education, the MoEAC should ensure that all urban and rural schools receive the same financing.

"*Budget and pay for disinfection of the entire school, promote active collaboration with other schools and the community at large.***"** [T3, Q9]

"*Seek help from the Regional office for any additional cost beyond UPE.***"** [T10, Q9]

ii) Advice to the school management

All cash in the school bank account, as well as relief money received from the Ministry, should be used to improve the life of the entire school community, according to the school administration. Money should be spent not only on the purchase of technological equipment but also on its care and maintenance.

"*During a crisis, Universal Primary Education (UPE) Grant Should cater for every cost of the school...***"** [T8, Q9]

"*Advise the government to invest more in education Universal Primary Education (UPE) grant is too less, develop an active fundraising committee to***

facilitate fundraising activities at school, and seek sponsorships from companies." [T4, Q9]

e) Technical skills of teachers in general and crises

i) Advice to the Ministry of Education, Arts and Culture

Teachers should be surveyed to determine what technological help they require, and more advanced technical support should be provided to teachers so that they can incorporate e-learning in their teaching and learning processes. The Ministry of Education, Arts, and Culture should invest in high-quality national learning materials for the Learning Management System (LMS).

"*...work towards improving the skills of all teachers, HODs, and the principal for steady implementation of e-learning.*" [T13, Q9]

ii) Advice to the school management

The school administration should work to improve teachers' ICT literacy, and they should use a self-reporting technique to deconstruct the technological obstacles they face. Introduce them to the Learning Management System (LMS) as a learning tool for students and a teaching tool for teachers.

"*Equip teachers with 21st-century skills for any upcoming pandemics or crisis to avoid interrupting teaching and learning.*" [T14, Q9]

f) Equipment and infrastructure

i) Advice to the Ministry of Education, Arts and Culture

The MoEAC should reach a deal with major network providers such as MTC and Telecom to have reliable WiFi installed in schools for use by school administration, learners, and teachers.

> "*The Ministry should provide learners, teachers, and the classroom devices for use during any pandemic.*" [T10, Q9]

ii) Advice to the school management

Educational leaders must ensure that school equipment is exclusively used for instructional reasons and not for personal gain. They must guarantee that the school has all of the necessary equipment to successfully adopt e-learning.

> "*More classroom equipment should be available to classes, chairs, tables, and smartboards, not blackboards.*" [T9, Q9]

g) Content creation

i) Advice to the Ministry of Education, Arts and Culture

Content should be successfully integrated into e-learning, according to the Ministry of Education, Arts, and Culture. Furthermore, the Ministry should provide training for new employees on how to create online learning resources. Recommend to the school administration that teachers be made available for a nationwide project to generate an online curriculum.

> "*...should provide funding for online content creation.*" [T5, Q9]

"There should be gender balance in selecting who is to attend the online content creation." [T6, Q9]

ii) Advice to the school management

The school administration should provide ways for content to be integrated into a learning management system (LMS) that the schools may utilize as a teaching and learning tool. The school administration should identify slow learners and encourage them to participate in the new curriculum. Encourage teachers to participate in workshops targeted at integrating online content.

"Teachers must be involved in online content creation." [T3, Q9]

"More recent examples should be used in the new content and they must be relevant to Namibia's specific place." [T2, Q9]

4.7 Summary

In this chapter, the findings from the semi-structured interview analysis were presented in alignment with the research questions. The findings presented are based on the data gathered from teachers, regarding their preparedness on the implementation of e-learning at a selected primary school during COVID-19. This research was carried out at an urban school in the Khomas region. Teachers were found to be unprepared to adopt e-learning based on their responses during the interview sessions. The inadequate adoption of e-learning during the COVID-19 pandemic at the selected primary school was due to a lack of training and professional support by MoEAC. Teachers also have good attitudes about the implementation of e-learning, but

problems such as a lack of online content expertise, a lack of teaching resources, and a lack of infrastructure in the school are important roadblocks to successful e-learning implementation.

The findings show that teachers' perceptions of e-learning are similar to academics' perceptions of e-learning. This means that if teachers understand what e-learning is, they will have a far better idea of what is expected of them as e-learning implementers at their school. The educational system's transition from traditional learning (face to face) to online learning (e-learning) has shown improved learning in schools (Aboagye, Yawson, & Appiah, 2007). (2020). They go on to add that e-learning is a learning system that can be accessed via the internet via an electronic device. "E-learning is training delivered by a computer or other digital device, allowing learners to learn whenever and wherever they want." (Aboagye et al., 2020).

CHAPTER 5: DISCUSSIONS OF FINDINGS

5.1 Introduction

This chapter discusses the main findings of the study that explored the preparedness of teachers to transfer their current ICT skills to an e-learning teaching environment during the COVID-19 pandemic. This chapter will discuss findings that answered the following research questions:

- How did teachers facilitate e-learning during the COVID-19 pandemic?

- What support did the teachers receive to implement e-learning at the school?

- What are the technological readiness strategies in place at the selected primary school to implement e-learning teaching and learning amid the COVID-19 pandemic?

5.1.1 Summary of finding RQ1

The majority of teachers do not grasp what e-learning comprises, and there is a lack of processes, content development, and facilitation, according to the findings. The bulk of teachers focused on generating printed materials, worksheets, and booklets during the pandemic. A few teachers said they had high ICT literacy skills and were ready to try e-learning, but they quickly discovered that resources were scarce and that parents and learners had connectivity and access problems.

5.1.2. Summary of RQ2

According to the data findings, the majority of teachers do not know how to apply e-Learning and lack techniques, content creation, and facilitation. The majority of teachers choose to use print materials over e-learning because they believe it is too difficult and irrelevant to the school they teach in. A few teachers claimed to have strong ICT literacy abilities and were eager to pursue e-learning, but they immediately discovered that resources were limited, and that teachers and children struggled with network WiFi and data connectivity. This is most likely due to outdated teaching practices and a lack of leadership that supports ICT integration throughout time rather than just in a crisis.

5.1.3. Summary of RQ3

The findings are based on information received from teachers about their readiness to integrate e-learning at a particular primary school during COVID-19. This study took place in a city school in the Khomas region. Based on their comments throughout the interview sessions, teachers were determined that they were unprepared to implement e-learning. Due to a lack of training and professional assistance from MoEAC, the selected elementary school's implementation of e-learning during the COVID-19 pandemic was inadequate. Teachers also have positive attitudes towards e-learning adoption, however, issues such as a lack of online content competence, a lack of teaching materials, and a lack of school infrastructure are significant hurdles to successful e-learning implementation.

5.1.4. Summary of overall findings

The conclusions are based on information obtained from teachers during COVID-19 about their readiness to integrate e-learning at a specific primary school. This research took place at a Khomas region city school. Teachers were found to be unprepared to adopt e-learning based on their statements during the interview sessions. The selected primary school's deployment of e-learning during the COVID-19 outbreak was insufficient due to a lack of training and professional assistance from MoEAC. Teachers are also enthusiastic about e-learning adoption, but challenges such as a lack of online content expertise, a scarcity of teaching resources, and a lack of school infrastructure are important roadblocks to successful e-learning implementation. Teachers' perceptions of e-learning are similar to those of e-learning researchers, according to the findings. This means that if teachers understand what e-learning is, they will have a better knowledge of what to expect when it is introduced at their school. The transition from traditional (face-to-face) to online (e-learning) learning in an educational system presents new issues that must be addressed prior to the actual implementation process (Aboagye et al., 2020).

5.2 Teachers' perspectives on curriculum change and implementation

Teachers expressed a favorable influence on the implementation of e-learning when they were involved in the implementation of e-learning. This view is in line with Chapnick's (2000) grassroots approach, which sees teachers as individuals who are responsible for implementing the curriculum in the classroom, hence their input is important in the curriculum creation process. Huizinga et al. (2014), on the other hand, claimed that while teachers' engagement in curriculum design promotes

implementation, teachers lack the knowledge and skills necessary to develop the curriculum.

5.3 Teachers' perspectives on the e-learning implementation challenge

The teachers' perceptions of the challenges of e-learning implementation will be discussed under the following subthemes; a) insufficient online content knowledge, b) the lack of online teaching and learning resources, c) the lack of Continous Professional Development (CPD), workshops and in-service training, and d) the fundamental difference between the traditional teaching model and e-learning.

5.3.1 Insufficient online content knowledge

In terms of insufficient online content knowledge, the study found that it is critical to guarantee that teachers are aware of online content knowledge in order for them to adopt e-learning at the chosen primary school during the COVID-19 pandemic. According to Josua (2015), it is critical for teachers to be taught and prepared for the implementation of e-learning in order for them to gain skills and knowledge, particularly in the area of assessment. Such teachers are more effective when they are given adequate support from the start so that they can develop professionally and acquire new skills and knowledge (Huizinga et al., 2014).

5.3.2 The lack of online teaching and learning resources

The findings also revealed some of the difficulties teachers have in properly integrating computers/ICTs into their classroom activities. Mulhim (2014) agrees that respondents' difficulties with successful use of ICTs in their classroom practice include

a lack of time, a lack of/no computers, a lack of facilities, and a lack of internet access. The study found that not having or not having enough computers was the most significant hindrance, with just forty computers accessible for all learners and learners in the schools. According to Mdlongwa (2012), including ICT in the curriculum of learners is a huge benefit to them. Learners who have access to ICTs can develop the abilities they need to succeed in a constantly technologically dominated workplace. Incorporating ICT into the school curriculum also encourages learners to become knowledge innovators in their own right, such as by using internet search abilities to find and collect relevant data for school projects, and then creating a report, such as a PowerPoint presentation. The development of information management, communication, independent learning, research, and collaboration skills, all of which are essential in today's global workforce, are other advantages of using ICT for learners (Mdlongwa, 2012).

5.3.3 The lack of CPD, workshops, and in-service training

Teachers need support for examples of a new practice, leadership from their school management, and adequate time to develop their professional skills and practices and to try out new approaches (Hennessy, et al., 2010). It is essential for school management to provide teachers with e-learning training, this will improve their ICT skills and practices. In-service training, according to Ouma (2013), is critical for teachers to acquire information in order to meet new problems and changes in the educational sector. Teachers have indicated great concern about the lack of professional support from both the school management as well as the MoEAC. They believe teachers with more than five years of teaching experience need to advance their

technological or ICT skills. Teachers believe that technology grows each day and they would like to be up to standard. This is concurred by Omara (2014) that in-service training is vital for teachers since they gain knowledge to meet new difficulties and changes in the educational sector. It concerns teachers that CPD is only about eating and listening to motivational speeches instead it should be aimed to improve teachers ICT skills. Moreover, teachers feel workshops and in-service training need to be organised by the school management and MoEAC in order to improve the use of e-learning in the school.

5.3.4 The fundamental difference between the traditional teaching model and e-learning

It emerged from the present study that the fundamental difference between the traditional teaching model and e-learning is another challenge that hampered the implementation of e-learning at the selected primary school. The current study's findings also revealed that the e-learning content is well-organized, notwithstanding their preference for traditional teaching methods. More space for improvement and upgrading of the computer lab must be made accessible for the sake of continuous improvement and consistent application of e-learning at the chosen primary school. The study also shows that transitioning from traditional teaching to e-learning at school is tough, despite its good impact on learners' performance and attendance. Teachers feel that learners have an innate love for technology, which will inspire them to come to school every day, resulting in increased learner attendance. Despite the preference of teachers for using the traditional approach, they face major challenges. Siririka

(2020) affirms that when asked about their preparation for e-learning, teachers reported a variety of concerns compared to traditional teaching methods.

5.4 The preferences for face-to-face teaching instead of e-learning

The global educational landscape has been devastated by the suspension of schools attributable to the Coronavirus pandemic. Although e-learning became a hot topic in the nineties, it appears that the world has now focused almost entirely on e-learning for a longer or shorter period of time, adapting and re-adapting to the new reality throughout the 2020 pandemic. Due to obstacles encountered during attempts to adopt e-learning at the selected school, teachers struggled to adjust to e-learning and still preferred face-to-face teaching.

5.5 Linking findings to the theoretical framework

The Chapnick model (2000) serves as a foundation for the research. The main focus of the discussion is on whether or not the selected primary school has the ability, resources, and abilities to adopt e-learning: a) Can the schools and teachers do it? b) If so, how will we do it? and c) What are the expected results, and how may they be assessed? Chapnick (2000) focuses on the following eight categories:

5.5.1 Psychological readiness

Most teachers, including those who claimed to be prepared for e-learning implementation at the selected primary school, were found to be unable to teach in any e-learning mode, according to the findings of this study. Although teachers indicated they had acquired these specific skills, they also indicated that their competencies were

very limited and they lacked confidence in their ICT competency. Teachers noted that they needed to be mentally prepared for the success of e-learning in the classroom. Farid (2014) states that if they are ready, they will be able to contribute positively to the implementation of e-learning. However, they were concerned about the various obvious difficulties in implementing any type of e-learning. Participants shared the frustrations of not being able to use online learning, e-learning, and other digital devices. Teachers stated that they received support from colleagues and management during the lockdown; however, fear of the unknown (whether COVID-19 or the future of schooling) played a major role in how teachers felt about their ability to implement the Ministry's directive.

5.5.2 Sociological readiness

Due to social and environmental aspects of the school community where e-learning was to be implemented, teachers reported a gap in sociological support from both school management and MoEAC. In order for teaching and learning to continue, their workplace's interpersonal environment is critical. Teachers, learners, and parents must all have a shared vision and goal. It is vital that all stakeholders in the school respect one another. According to additional research, healthy interpersonal links are established at school to prevent a culture of gossip and back talking from undermining the school's e-learning implementation (Britto, 2012). It is essential to assure that all personal disagreements among teachers are addressed peacefully in order to maintain a strong working relationship at school.

All members of the school community must be encouraged to communicate openly. In addition, many teachers in the study indicated they developed learning groups on

social media sites like WhatsApp and Telegram to keep up with their learners' learning activities. Despite their best efforts, teachers were convinced that the school environment would prevent a successful implementation. A number of digital divide roadblocks were discovered, with IT competence, and resources being the most important factors impeding e-learning adoption. Teachers indicated that management and workers provided adequate support for e-learning adoption.

5.5.3 Environmental readiness

In this study, the school's environmental readiness during lockdown to integrate e-learning was judged to be good. Despite the fact that some stakeholders confronted major challenges, it is advised that all members of a school community be e-ready before implementing e-learning. It was ineffective to have teachers with a high level of e-readiness. Parents of school-aged children should be able to afford enough money for their children to do homework if it is assigned via e-learning. The government of Namibia and non-governmental organizations (NGOs) should provide more jobs for all residents so that parents and guardians can afford to purchase technical equipment and other e-learning infrastructure. Furthermore, teachers' comments suggest that there was a broad lack of e-readiness among stakeholders, including the MoEAC, in addition to the school and employees. The COVID-19 pandemic took everyone off guard, and in many ways, the countries that were successful in shifting to e-learning were those that put in place infrastructure to support the programs over time. Many efforts to promote ICT readiness in schools were either abandoned or never began after 2006, which was negative for the MoEAC. When determining human resource preparation, support systems, supply, and style of the human-support system are taken into account.

5.5.4 Human resource readiness

The outcomes of this study also demonstrated that while all teachers received basic professional training, they, however, did not receive continuous professional development (CPD) that would make teachers feel competent and confident in their IT skills. At the time of the study, the majority of Namibian schools were unable to achieve the developmental technology level 2 requirements because of poor human resource support. Teachers have not received training in technology integration as stipulated in the Tech/Na! implementation guide. Many government restraints and inefficiencies, including ineffective principal leadership and a lack of teaching experience, have hindered or stalled the Tech/NA! implementation process (Ngololo, 2012). As a result, it is critical that the principal be disciplined and demonstrate best practices in the implementation of e-learning at the school.

5.5.5 Financial readiness

Teachers raised concerns regarding technology infrastructure management and funding, not only for the purchasing of technical equipment but also for its upkeep and maintenance. As defined by the Ministry of Education, Arts and Culture (MoEAC), school management, and teachers, financial preparedness is the ability to purchase the necessary equipment and facilities for e-learning implementation. Furthermore, the study demonstrates that the school board, school management, and the MoEAC determine the school's financial readiness. Although they prepare the school's financial budgets, teachers are rarely consulted when it comes to allocating funds for e-learning implementation in the selected primary school. Furthermore, the lack of technology

equipment allocated to schools is due to the lack of finances from the MoEAC financial support to the school.

5.5.6 Technological skill (aptitude) readiness

Teachers, HODs, and the principal should be well-versed in technological skills in order to effectively teach and learn using e-learning in the classroom. The study also relied on teachers' self-reported abilities and did not measure their ICT literacy. Teachers, on the whole, expressed an interest in acquiring e-learning training. They also thought that understanding how to create learning materials in a learning management system (LMS) is critical.

a) Equipment readiness

This study also revealed that teachers face equipment readiness difficulties that impede their deployment of e-learning at school. Participants identified a shortage of equipment such as computers, facilities, and internet connectivity as difficulties in properly implementing e-learning, according to Mulhim (2014). Namibia has one of the best levels of ICT equipment in Southern Africa. However, with the exception of radio and television, which appear to have covered the bulk of the country, the majority of the technological infrastructure is concentrated in cities. Namibia's fourth National Development Plan document (NDP4, 2012-2017) supports this sentiment, stating:

> *The issues with the educational system are numerous, ranging from a lack of quality to equipment and information and communication technologies (ICT). While there have been some advancements in the last 21 years, they have been minor. Many people think they're ineffective because they haven't given the*

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system the reform it needs. Because education, like any other form of training,

involves a direct transfer of skills, it is vital that individuals charged with the

monumental task of educating the nation and ensuring that skills are efficiently

transferred are properly qualified to do so (Republic of Namibia, p. 46, 2007).

Despite repeated initiatives to build infrastructure in schools and colleges, the connection is now available in more than 80% of the country, but the MoEAC still faces a technology infrastructure mismatch (Wilder, 2012). It is the responsibility of the school administration to ensure that technological equipment is up to date in order to foster the consistent adoption of e-learning at the school. According to the participants' replies in the previous chapter (4), it is the responsibility of school administration to guarantee that equipment is budgeted for, acquired, and distributed fairly in each class. Teachers said that the school lacked basic internet access and technological tools, making it unfit for e-learning or permitting learners to work on school property outside school hours. The school needs a well-equipped computer lab with comfortable chairs, tables, fully functional PCs, iPads, and other internet-related equipment. Moreover, the International Telecommunication Union (2014) encourages countries to use ICTs to boost productivity, reach out to the unreached, and improve learning quality, as it is believed that ICT can have a huge impact on expanding learning opportunities for people from all walks of life across cultural and geographical boundaries.

b) Content readiness

Teachers are interested in learning how to construct learning materials - paper-based and online, however, as previously indicated, they are more concerned about their

students' inability to self-regulate their learning. Teachers were similarly perplexed about how to accommodate learners with special needs, indicating that they would need training and direction in this area. Furthermore, the Ministry of Education, Arts, and Culture appears to have plans in place to deliver online content for all Namibian grades in the near future, according to this research. It is progressing slowly due to a predilection for the use of print materials such as textbooks and workbooks. The Ministry of Education and Culture has tasked institutes like Namibia College of Open Learning (NAMCOL) and the National Institute of Educational Development (NIED) with spearheading the development of online content for all learners. NAMCOL started with content creation in notes master albeit the older curriculum. Namibian Institute for Education Development (NIED) is working hard to speed up the generation of content, but it appears that there is an unspoken hurdle they must overcome in order to generate content successfully online.

5.6 Summary

This chapter highlighted the study's main findings using the research questions and the framework that which the study was built. The findings demonstrated that it is vital to include all stakeholders from the outset of the planning process for e-learning implementation, as supported by Chapnick's (2000) approach that structured this study. Teachers must be trained in all aspects of e-learning in order to be ready to implement the intended e-learning at the chosen school for the benefit of Namibian students and the educational system as a whole. The essential infrastructure must be in place before e-learning can be introduced. The next chapter summarises and concludes the study, then finally provides recommendations for further studies.

CHAPTER 6: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

6.1 Introduction

This chapter presents a summary of the findings of the study and conclusion as well as the recommendations based on the findings on how prepared are teachers to transfer their current ICT skills to an e-learning teaching environment during the COVID-19 pandemic. The chapter further identifies possible areas for further research.

6.2 Summary of the findings of the study

The purpose of the study was to look into how existing teachers use technology in their professional lives and assess their readiness to implement e-learning if it becomes mandatory. The study used a single case study design and used a qualitative case study approach. In the Khomas region, a purposive sample strategy was utilized to pick fifteen participants from the selected school, which included instructors, department heads, and the principal. The teachers, HODs, and the principal all took part in the research. Teachers were chosen for the study based on their teaching roles, while HODs and the principal were chosen for their roles in planning, budgeting, and financing the introduction of e-learning at the chosen primary school. Data was collected using the following method: one-on-one semi-structured interview. It became clear that teachers were largely absent from the process of introducing e-learning in the school.

As advised by Chapnick's (2000) paradigm, which structured this study, it is critical to include teachers in the process of building a new e-learning curriculum. Some teachers

expressed optimism and confidence in the introduction and execution of e-learning. However, because they did not obtain adequate e-readiness training, some teachers were unsure and felt unprepared for the adoption of e-learning. Furthermore, just a few individuals stated that they had not received any e-learning-related training for usage in a classroom setting.

The study's findings also revealed that a lack of online teaching tools, such as adequate online textbooks, online activities, visual teaching aids, and properly equipped computer labs, had a detrimental impact on the implementation of e-learning at the chosen primary school. Due to a scarcity of online resources, teachers found it difficult to implement e-learning in their schools. In qualitative analysis, more computers in schools, more e-learning training, adequate IT equipment in schools (LCD projectors, laptops, tablets, screens & smart boards), internet connectivity, ICT compatible classrooms, and professional and technical support were identified as factors that helped participants effectively use e-learning in their classroom practices.

6.3 Recommendations

The study's recommendations are divided into four categories: teacher training programs, school management, and leadership, national e-learning initiatives, policy initiatives, infrastructure initiatives, technical support services initiatives, the recommendation for further research; teachers' negative attitudes on the use of e-learning in the classroom and options for alternative e-learning-related integration training

6.3.1. Teacher training programs

The research recommends that teacher training programs be implemented, particularly for instructors at selected elementary schools. These programs should include seminars, meetings, group discussions, and debates. The study also recommends that in-service training must be compulsory for teachers who have been teaching for more than five years.

6.3.2. School management and leadership

The principal and HODs should budget for Continuous Professional Development (CPD) and it should be compulsory for all teachers, HODs, and the principal to improve their e-readiness. Moreover, workshops should be organised and funded by the school management for teachers to advance their e-readiness to implement e-learning.

6.3.3. National e-learning initiatives

The MoEAC needs to include e-learning in all teacher education programs, teacher participation in e-learning, e-learning practice reinforcement at People's Primary School, and lastly techniques utilized to enhance learners' comprehension. In the same vein, workshops should be used by the Ministry to educate teachers with e-learning abilities and to increase their ICT skills.

6.3.4. Policy initiatives

Public and private schools should adopt new policies under the Ministry of Education, Arts, and Culture that allow learners to use digital gadgets as a learning aid on school

grounds. The gap between public and private schools must be closed in order for Namibian schools to adopt e-learning. This can be accomplished by amending obsolete policies that favor a traditional educational system over a new learning environment. Furthermore, entry standards for teaching employment should be upgraded to a Masters in Education from a Diploma, Degree, and/or Honours.

6.3.5. Infrastructure initiatives

Infrastructure efforts should be explored, according to the study, so that the chosen institution can have its own infrastructure to speed up the adoption of e-learning. The school should take steps to meet MoEAC halfway by raising cash for infrastructure purchases, seeking sponsors, and writing to network providers such as Telecom Namibia (TN) and Mobile Telecommunication Company of Namibia (MTC).

6.3.6 Technical support services initiative

It's critical to keep ICT equipment in good working order so that teachers may use it to develop and improve the educational e-learning environment. Because the life cycle of ICT equipment will be extended, schools will benefit from educating one staff member as an IT support technician with a basic grasp of computer maintenance, troubleshooting, hardware and software installation, updating, and computer security issues. Teachers will have someone to turn to if technical difficulties arise in their classes, which will reduce worry and mistrust of technology.

6.4 Recommendations for further study

6.4.1 Teachers' negative attitudes on the use of e-learning in the classroom

Teachers who actively embraced e-learning training voiced concern about other teachers' apprehensions about incorporating e-learning into their courses and taking e-learning seriously. Finding out what produces such negativity would be an important research issue.

6.4.2 Options for alternative e-learning-related integration training

Due to the limited scope of e-learning training for teaching instructors in e-learning integration abilities, a demand for a more practical training package to educate teachers with the requisite technical capabilities for practical online classroom application arises. This is a problem that needs to be looked into in order for better e-learning integration methods to emerge.

6.4.3 Investigate internal strategies in Namibian private schools that facilitate e-learning implementation.

Research to determine the extent to which schools develop and execute ICT policies. Do schools have internal ICT policies, and if so, how effective are these policies in bringing ICT integration to fruition?

6.4.4 Investigate parents' and students' attitudes about e-learning implementation.

A survey to find out what parents and students think about the use of e-learning in the classroom.

6.4.5 Expansion of the existing research

Because this study was limited to the Khomas Education zone, applying it to the entire Namibian nation will produce generalizable results.

6.5 Conclusion

The COVID-19 pandemic has revived worldwide attention to e-learning. It is now possible to infer that teachers, HODs, and the principal in the targeted school have favorable opinions of their ability to transfer their present ICT abilities to an e-learning teaching environment during the COVID-19 pandemic. They recognize it and view it as a tool for transforming Namibia's education system into a 21st-century classroom. Participants acknowledged their involvement and contribution while also emphasizing the problems that serve as roadblocks and lead to unfavorable judgments. Inadequate online content understanding, a lack of online teaching and learning tools, a lack of CPD, workshops, and in-service training, and the basic difference between conventional teaching and e-learning were all cited as problems. These flaws might be viewed as elements that contribute to the spread of unfavorable attitudes about e-learning. The research goes on to say that the teacher-to-learner ratio is a problem since it is now 1:40 when it should be 1:35. Lack of assistance from more competent colleagues, school administration, MOEAC, and the community also had a role in the unsuccessful implementation of e-learning at the chosen primary school. Using the Chapnick (2000) readiness model, it is clear from the teachers' perceptions, that they were unable to implement e-learning at the school as directed. Issues of lack of confidence and competence in personal ICT skills and eLearning training were among the major responses from teachers in this study.

Because the study only involved one primary school and only focused on teachers, HODs, and the principal only, future research will need to include a number of learners to compare the outcomes and acquire a better understanding of teachers' willingness to implement e-learning the COVID-19 pandemic.

The length of e-learning implementation, Emergency Remote Teaching, teachers' readiness, and all participants sought to adopt e-learning throughout the pandemic at the selected primary School were also revealed in the study findings. A concerted effort needs to be placed on specifically the continuous professional development of teachers in order to train a teaching "body" prepared to deal with the inevitable changes of life events, crises, and pandemics.

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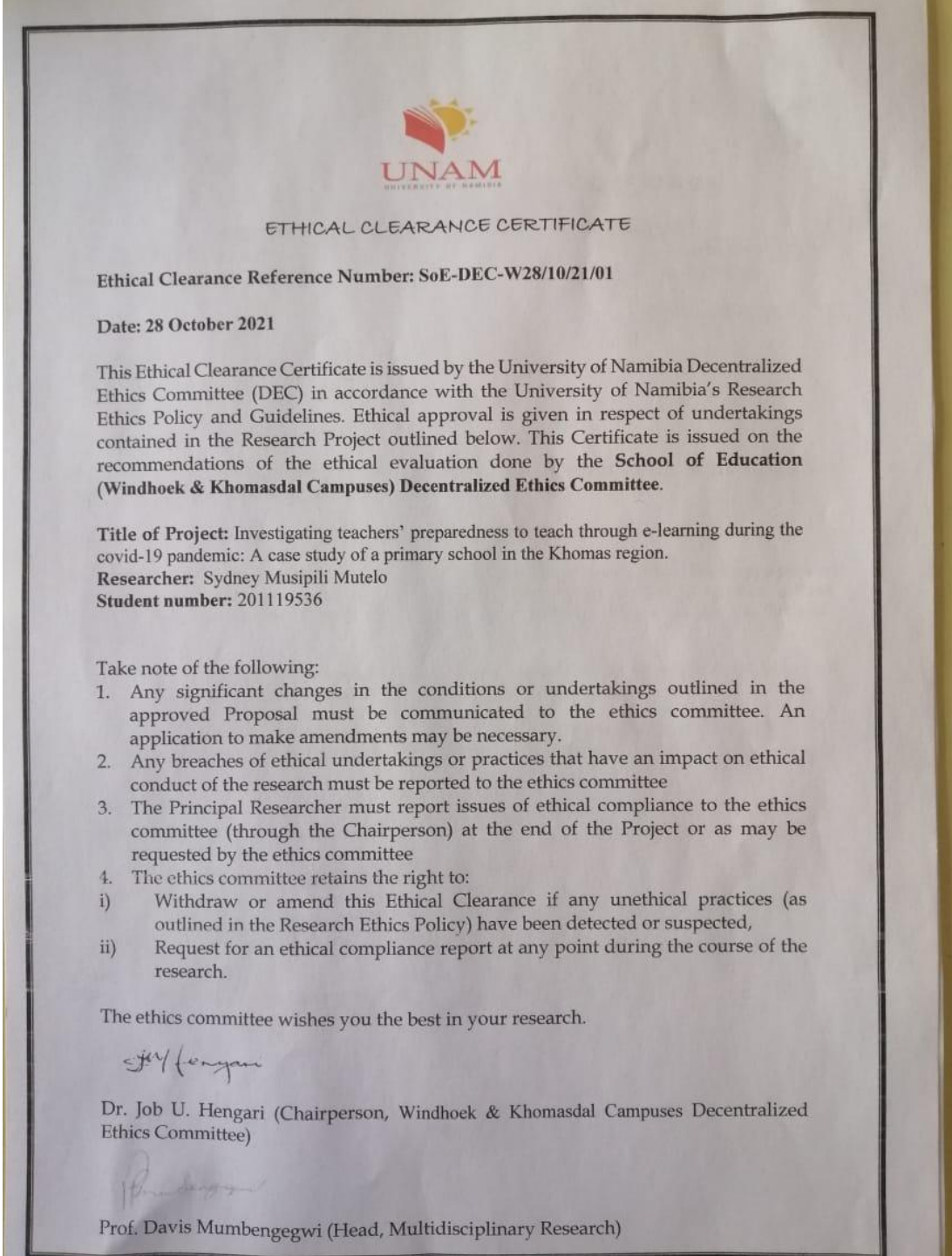
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8. APPENDICES

Appendix A: Ethical clearance certificate

UNAM
UNIVERSITY OF NAMIBIA

ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: SoE-DEC-W28/10/21/01
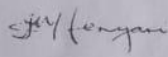
Date: 28 October 2021

This Ethical Clearance Certificate is issued by the University of Namibia Decentralized Ethics Committee (DEC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the **School of Education (Windhoek & Khomasdal Campuses) Decentralized Ethics Committee**.

Title of Project: Investigating teachers' preparedness to teach through e-learning during the covid-19 pandemic: A case study of a primary school in the Khomas region.
Researcher: Sydney Musipili Mutelo
Student number: 201119536

Take note of the following:
1. Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the ethics committee. An application to make amendments may be necessary.
2. Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the ethics committee
3. The Principal Researcher must report issues of ethical compliance to the ethics committee (through the Chairperson) at the end of the Project or as may be requested by the ethics committee
4. The ethics committee retains the right to:
i) Withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected,
ii) Request for an ethical compliance report at any point during the course of the research.

The ethics committee wishes you the best in your research.

Dr. Job U. Hengari (Chairperson, Windhoek & Khomasdal Campuses Decentralized Ethics Committee)

Prof. Davis Mumbengegwi (Head, Multidisciplinary Research)

Appendix B: Approval letter from the Director of Education, Arts and Culture giving permission to conduct research at the public school in Khomas region

REPUBLIC OF NAMIBIA
KHOMAS REGIONAL COUNCIL
DIRECTORATE OF EDUCATION, ARTS AND CULTURE

Tel: [09 264 61] 293 4356
Fax: [09 264 61] 231 367/248 251

Private Bag 13236
WINDHOEK

05 November 2021

P. O. Box 27235
Windhoek
Namibia

For Attention: Mr. Sydney M.Mutelo

REQUEST FOR PERMISSION TO CONDUCT RESEARCH INTERVIEWS WITH SELECTED PRIMARY SCHOOLS IN WINDHOEK, KHOMAS REGION

Your letter dated 04 November 2021 on the above topic is hereby acknowledged.

Permission is hereby granted to you to conduct research on "**Investigation the perspective of Teacher's preparedness to teach through e-learning during the Covid-19 pandemic: a Case Study of primary school**" People Primary School, in Khomas Region under the following conditions:

❖ The Principal of the selected school to be visited must be contacted in advance and agreement should be reached between you and the Principal.
❖ The school programme should not be interrupted.
❖ The teachers and students who will take part in this exercise will do so voluntarily.
❖ The Directorate of Education, Arts and Culture should be provided with a copy of your thesis/ findings.

We wish you success in your research.

Yours sincerely

05/11/202

MINISTRY OF EDUCATION
ARTS AND CULTURE
PRIVATE BAG 13236 WINDHOEK
0 5 -11- 2021
DIRECTOR
KHOMAS REGION

Paulus D. Nghikembua
Director of Education, Arts and Culture

Page 1 of 1

Appendix C: Interview protocol

My name is Sydney Mutelo and I am a Masters student in Educational Technology at UNAM. Thank you for agreeing to talk to me about teacher technology preparedness during the first lockdown. First, please note that your responses will be treated with confidentiality. Reporting will be anonymous and the school will be anonymous. The questions I am asking are simply to find out more about your experiences during the first lockdown as it pertains to your reflection and assessment of your skills, the school, and ministry support. I hope that your honest answers will assist in helping the Ministry of Education, Arts and Culture come up with ways to support teachers better especially when it comes to the technological requirements.

Questions
1. When I talk about "e-learning" what comes to your mind?
2. Have you had any e-learning experience? If so, tell me about your experience in e-learning so far? (e.g. such as content creation, creating quiz, and facilitation in blended mode)
3. How would you rate the confidence of your ICT skills and what makes you say that? Justify it? (RQ2)

4. During the COVID-19 pandemic lockdown period, how did you deal with continuing your teaching and learning and assessment activities to the learners? (RQ1) (Were you able to transfer your current skills to implement what the Ministry of Education expected during COVID lockdown?)

5. Have you received any e-learning or related training from any relevant institution of higher learning? (RQ 2)

6. Looking back during the first lockdown, how prepared were you and other teachers at People's Primary School to transfer your current ICT skills to e-learning to continue teaching and learning during the COVID-19 pandemic? (RQ1)

7. In your opinion, what do you think were the difficulties you and other teachers experienced that made you feel you could deal with this or not deal with this directive from the ministry? (RQ3)

8. If you had a crystal ball and knew there would be COVID-19 pandemic years from now what would be your (ideal) readiness plan and e-readiness strategies? (RQ3)

9. If you had to advise the Ministry, what would you advise them in terms of the following professional support to teachers? What would you advise the school management in order to develop e-learning teaching and learning training/support to teaching staff? (RQ3)

- On psychological support for teachers

- On school environment support during crises

- On the number of teachers & qualifications during crises

- On finances during crises

- Technical skills of teachers in general and crises

- Equipment and infrastructure

- Content creation

The questions above are based on the ORID inquiry framework stated below:

ORID Framework: (O)= Objective Data; (R) = Reflective Data; (I)=Interpretive Data; (D) = Decisive Data

An explanation of the framework is (Dialogue Process) Guided by 4-Levels of Inquiry

Objective Data, i.e., using the senses to gather the "facts" of a given situation based on relatively directly observable data from multiple perspectives for the purpose of creating a shared pool of information—externally focused

Reflective Data, i.e., eliciting the imagination and emotional responses of people to surface how each is experiencing the "external data"—internally focused and inclusive of reactions, feelings, and associations

Interpretative Data, i.e., catalyzing the sharing of lived experiences through the identification of patterns, themes, and lessons learned from the experience—meaning-making focused to highlight explore the significance and/or impact of the situation; and

Decisional Data, i.e., pulling insights gained to generate options, examine potential benefits and consequences, determine priorities and make decisions—action-focused and includes experimentation, pilots, and full implementation.

Appendix D: A letter requesting permission from the Director of Education, Arts and Culture (Khomas region)

Box 27235

Windhoek

04 November 2021

The Executive Director (Khomas education region)

Ministry of education

P/Bag

Dear Sir/Madam

Re: Request for permission to carry out a research study at a Selected Primary School

I am a young and determined upcoming education researcher, currently teaching at People's Primary School, a public school located on the slopes of Hans Uirab street in Katutura, Windhoek.

I am in my final year for the Masters of Education Degree at the University of Namibia (Educational Technology) 10MEET. As a requirement for partial fulfillment of the

degree of master of education at the University of Namibia, I am interested in **investigating the perspective of teachers' preparedness to teach through e-learning during the COVID-19 pandemic: a case study of a primary school in the Khomas region.** Jakobsone and Cakula (2015) defined teacher preparedness for e-learning as the mental or physical preparedness of a teacher for some e-learning action, which is crucial to be addressed before the physical implementation of any e-learning initiative.

I, therefore, seek to ask for your permission to allow me to collect the data that is necessary to accomplish this study. Only 15 staff (teachers, HODs, and the principal) will be required to participate in this study. The research will not negatively interfere with/or affect teaching and learning because the researcher intends to collect most of the data from teachers during their free time. Data will be collected over a period of one week only.

Attached is the summary of the study.

Thanking you in anticipation

Yours faithfully

Sydney M. Mutelo (081 447 3826)